



SEQUENCE LISTING

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Wilson, Keith E.
Afar, Daniel
Peter, Hevezi

<120> Methods of Diagnosis of Prostate Cancer, Compositions and Methods
of Screening for Modulators of Prostate Cancer

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<150> 60/276,791

<151> 2001-03-16

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His Ser Arg Gln His Thr Ala Lys Gln Arg Val Leu Asp Ile Ala Asp
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Asn Ala Val Ser Phe Thr Trp Asp Val Asn Glu Glu Ala Lys Ile Phe
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Cys Asp Lys Gly Ala Glu Arg Lys Ile Arg Asp Glu Glu Gln Lys Gln
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Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
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Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
115 120 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
130 135 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145 150 155 160

Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
165 170 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser

180

185

190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
 195 200 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
 210 215 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
 225 230 235 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
 245 250 255

Met Cys Tyr Glu Trp Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
 260 265 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Lys Arg Ser Ile Gln Trp Glu
 275 280 285

Glu Arg Leu Gln Glu Gln Arg Arg Thr Val Gln Asp Lys Lys Lys Thr
 290 295 300

Ala Gly Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Lys Pro
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Pro Ala Pro Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Thr Arg Ser
 325 330 335

Ala Gln Lys Arg Thr Asn Pro Lys Arg Val
 340 345

<210> 9
 <211> 381
 <212> DNA
 <213> human organism

<400> 9
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ataaaaatttt tttaaaaaag g 381

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<211> 57
<212> PRT
<213> human organism

<400> 10

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Ser Lys Ser Ala Phe Leu Ser Asn Lys Lys Thr Ser Thr Leu Lys His
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Leu Leu Gly Glu Thr Arg Ser Asp Gly Ser Ala Cys Asn Ser Gly Ile
35 40 45

Ser Gly Gly Arg Gly Arg Lys Ile Pro
50 55

<210> 11
<211> 1141
<212> DNA
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 a 1141

<210> 12
 <211> 252
 <212> PRT
 <213> human organism

<400> 12

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Met Val Met Val Val Val Ile Thr Cys Leu Leu Ser His Tyr Lys Leu
 20 25 30

Ser Ala Arg Ser Phe Ile Ser Arg His Ser Gln Gly Arg Arg Arg Glu
 35 40 45

Asp Ala Leu Ser Ser Glu Gly Cys Leu Trp Pro Ser Glu Ser Thr Val
 50 55 60

Ser Gly Asn Gly Ile Pro Glu Pro Gln Val Tyr Ala Pro Pro Arg Pro
 65 70 75 80

Thr Asp Arg Leu Ala Val Pro Pro Phe Ala Gln Arg Glu Arg Phe His
 85 90 95

Arg Phe Gln Pro Thr Tyr Pro Tyr Leu Gln His Glu Ile Asp Leu Pro
 100 105 110

Pro Thr Ile Ser Leu Ser Asp Gly Glu Glu Pro Pro Pro Tyr Gln Gly
 115 120 125

Pro Cys Thr Leu Gln Leu Arg Asp Pro Glu Gln Gln Leu Glu Leu Asn
 130 135 140

Arg Glu Ser Val Arg Ala Pro Pro Asn Arg Thr Ile Phe Asp Ser Asp
 145 150 155 160

Leu Met Asp Ser Ala Arg Leu Gly Gly Pro Cys Pro Pro Ser Ser Asn
 165 170 175

Ser Gly Ile Ser Ala Thr Cys Tyr Gly Ser Gly Gly Arg Met Glu Gly
 180 185 190

Pro Pro Pro Thr Tyr Ser Glu Val Ile Gly His Tyr Pro Gly Ser Ser
 195 200 205

Phe Gln His Gln Gln Ser Ser Gly Pro Pro Ser Leu Leu Glu Gly Thr
 210 215 220

Arg Leu His His Thr His Ile Ala Pro Leu Glu Ser Ala Ala Ile Trp
 225 230 235 240

Ser Lys Glu Lys Asp Lys Gln Lys Gly His Pro Leu
 245 250

<210> 13
 <211> 1807
 <212> DNA
 <213> human organism

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 ggtcttcgct gctggggggc gcgcatagct ccgactacag catgtggagg aagaaccagt 540

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<210> 14
<211> 331
<212> PRT
<213> human organism

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<400> 14
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Met Glu Asn Pro Ser Pro Ala Ala Ala Leu Gly Lys Ala Leu Cys Ala
1           5           10           15

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Leu Leu Leu Ala Thr Leu Gly Ala Ala Gly Gln Pro Leu Gly Gly Glu
20 25 30

Ser Ile Cys Ser Ala Arg Ala Pro Ala Lys Tyr Ser Ile Thr Phe Thr
35 40 45

Gly Lys Trp Ser Gln Thr Ala Phe Pro Lys Gln Tyr Pro Leu Phe Arg
50 55 60

Pro Pro Ala Gln Trp Ser Ser Leu Leu Gly Ala Ala His Ser Ser Asp
65 70 75 80

Tyr Ser Met Trp Arg Lys Asn Gln Tyr Val Ser Asn Gly Leu Arg Asp
85 90 95

Phe Ala Glu Arg Gly Glu Ala Trp Ala Leu Met Lys Glu Ile Glu Ala
100 105 110

Ala Gly Glu Ala Leu Gln Ser Val His Ala Val Phe Ser Ala Pro Ala
115 120 125

Val Pro Ser Gly Thr Gly Gln Thr Ser Ala Glu Leu Glu Val Gln Arg
130 135 140

Arg His Ser Leu Val Ser Phe Val Val Arg Ile Val Pro Ser Pro Asp
145 150 155 160

Trp Phe Val Gly Val Asp Ser Leu Asp Leu Cys Asp Gly Asp Arg Trp
165 170 175

Arg Glu Gln Ala Ala Leu Asp Leu Tyr Pro Tyr Asp Ala Gly Thr Asp
180 185 190

Ser Gly Phe Thr Phe Ser Ser Pro Asn Phe Ala Thr Ile Pro Gln Asp
195 200 205

Thr Val Thr Glu Ile Thr Ser Ser Ser Pro Ser His Pro Ala Asn Ser
210 215 220

Phe Tyr Tyr Pro Arg Leu Lys Ala Leu Pro Pro Ile Ala Arg Val Thr
225 230 235 240

Leu Val Arg Leu Arg Gln Ser Pro Arg Ala Phe Ile Pro Pro Ala Pro

245

250

255

Val Leu Pro Ser Arg Asp Asn Glu Ile Val Asp Ser Ala Ser Val Pro
 260 265 270

Glu Thr Pro Leu Asp Cys Glu Val Ser Leu Trp Ser Ser Trp Gly Leu
 275 280 285

Cys Gly Gly His Cys Gly Arg Leu Gly Thr Lys Ser Arg Thr Arg Tyr
 290 295 300

Val Arg Val Gln Pro Ala Asn Asn Gly Ser Pro Cys Pro Glu Leu Glu
 305 310 315 320

Glu Glu Ala Glu Cys Val Pro Asp Asn Cys Val
 325 330

<210> 15
 <211> 786
 <212> DNA
 <213> human organism

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<210> 16
 <211> 143
 <212> PRT
 <213> human organism

<400> 16

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Leu Thr Ser Ala Val Ala Lys Lys Lys Asp Lys Val Lys Lys Gly Gly
 20 25 30

Pro Gly Ser Glu Cys Ala Glu Trp Ala Trp Gly Pro Cys Thr Pro Ser
 35 40 45

Ser Lys Asp Cys Gly Val Gly Phe Arg Glu Gly Thr Cys Gly Ala Gln
 50 55 60

Thr Gln Arg Ile Arg Cys Arg Val Pro Cys Asn Trp Lys Lys Glu Phe
 65 70 75 80

Gly Ala Asp Cys Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly
 85 90 95

Gly Thr Gly Thr Lys Val Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr
 100 105 110

Asn Ala Gln Cys Gln Glu Thr Ile Arg Val Thr Lys Pro Cys Thr Pro
 115 120 125

Lys Thr Lys Ala Lys Ala Lys Ala Lys Lys Gly Lys Gly Lys Asp
 130 135 140

<210> 17
 <211> 1617
 <212> DNA
 <213> human organism

<400> 17
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<210> 18
<211> 538
<212> PRT
<213> human organism

<400> 18

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Leu Asp Lys Leu Lys Phe Asn Arg Ala Asp Ala Ala Val Trp Thr Leu
20 25 30

Ser Asp Arg Gln Gly Ile Thr Lys Ser Ala Pro Leu Arg Val Ser Gln
35 40 45

Leu Phe Ser Arg Ser Cys Pro Arg Val Leu Pro Arg Gln Pro Ser Thr
50 55 60

Ala Met Ala Ala Tyr Gly Gln Thr Gln Tyr Ser Ala Gly Ile Gln Gln
65 70 75 80

Ala Thr Pro Tyr Thr Ala Tyr Pro Pro Pro Ala Gln Ala Tyr Gly Ile
85 90 95

Pro Ser Tyr Ser Ile Lys Thr Glu Asp Ser Leu Asn His Ser Pro Gly
100 105 110

Gln Ser Gly Phe Leu Ser Tyr Gly Ser Ser Phe Ser Thr Ser Pro Thr
115 120 125

Gly Gln Ser Pro Tyr Thr Tyr Gln Met His Gly Thr Thr Gly Phe Tyr
130 135 140

Gln Gly Gly Asn Gly Leu Gly Asn Ala Ala Gly Phe Gly Ser Val His
145 150 155 160

Gln Asp Tyr Pro Ser Tyr Pro Gly Phe Pro Gln Ser Gln Tyr Pro Gln
165 170 175

Tyr Tyr Gly Ser Ser Tyr Asn Pro Pro Tyr Val Pro Ala Ser Ser Ile
180 185 190

Cys Pro Ser Pro Leu Ser Thr Ser Thr Tyr Val Leu Gln Glu Ala Ser
195 200 205

His Asn Val Pro Asn Gln Ser Ser Glu Ser Leu Ala Gly Glu Tyr Asn
210 215 220

Thr His Asn Gly Pro Ser Thr Pro Ala Lys Glu Gly Asp Thr Asp Arg
225 230 235 240

Pro His Arg Ala Ser Asp Gly Lys Leu Arg Gly Arg Ser Lys Arg Ser
245 250 255

Ser Asp Pro Ser Pro Ala Gly Asp Asn Glu Ile Glu Arg Val Phe Val
260 265 270

Trp Asp Leu Asp Glu Thr Ile Ile Ile Phe His Ser Leu Leu Thr Gly
275 280 285

Thr Phe Ala Ser Arg Tyr Gly Lys Asp Thr Thr Thr Ser Val Arg Ile
290 295 300

Gly Leu Met Met Glu Glu Met Ile Phe Asn Leu Ala Asp Thr His Leu
305 310 315 320

Phe Phe Asn Asp Leu Glu Asp Cys Asp Gln Ile His Val Asp Asp Val
325 330 335

Ser Ser Asp Asp Asn Gly Gln Asp Leu Ser Thr Tyr Asn Phe Ser Ala
340 345 350

Asp Gly Phe His Ser Ser Ala Pro Gly Ala Asn Leu Cys Leu Gly Ser
355 360 365

Gly Val His Gly Gly Val Asp Trp Met Arg Lys Leu Ala Phe Arg Tyr
370 375 380

Arg Arg Val Lys Glu Met Tyr Asn Thr Tyr Lys Asn Asn Val Gly Gly
385 390 395 400

Leu Ile Gly Thr Pro Lys Arg Glu Thr Trp Leu Gln Leu Arg Ala Glu
405 410 415

Leu Glu Ala Leu Thr Asp Leu Trp Leu Thr His Ser Leu Lys Ala Leu
420 425 430

Asn Leu Ile Asn Ser Arg Pro Asn Cys Val Asn Val Leu Val Thr Thr
435 440 445

Thr Gln Leu Ile Pro Ala Leu Ala Lys Val Leu Leu Tyr Gly Leu Gly
450 455 460

Ser Val Phe Pro Ile Glu Asn Ile Tyr Ser Ala Thr Lys Thr Gly Lys
 465 470 475 480

Glu Ser Cys Phe Glu Arg Ile Met Gln Arg Phe Gly Arg Lys Ala Val
 485 490 495

Tyr Val Val Ile Gly Asp Gly Val Glu Glu Glu Gln Gly Ala Lys Lys
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His Asn Met Pro Phe Trp Arg Ile Ser Cys His Ala Asp Leu Glu Ala
 515 520 525

Leu Arg His Ala Leu Glu Leu Glu Tyr Leu
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<210> 19
 <211> 2261
 <212> DNA
 <213> human organism

<400> 19
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<210> 20
<211> 587
<212> PRT
<213> human organism

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<400> 20

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Glu Pro Ser Ile Ser Phe Glu Gly Leu Cys Asn Glu Val Arg Asp Met
35 40 45

Cys Ser Phe Asp Asn Glu Gln Leu Phe Thr Met Lys Trp Ile Asp Glu
50 55 60

Glu Gly Asp Pro Cys Thr Val Ser Ser Gln Leu Glu Leu Glu Glu Ala
65 70 75 80

Phe Arg Leu Tyr Glu Leu Asn Lys Asp Ser Glu Leu Leu Ile His Val
85 90 95

Phe Pro Cys Val Pro Glu Arg Pro Gly Met Pro Cys Pro Gly Glu Asp
100 105 110

Lys Ser Ile Tyr Arg Arg Gly Ala Arg Arg Trp Arg Lys Leu Tyr Cys
115 120 125

Ala Asn Gly His Thr Phe Gln Ala Lys Arg Phe Asn Arg Arg Ala His
130 135 140

Cys Ala Ile Cys Thr Asp Arg Ile Trp Gly Leu Gly Arg Gln Gly Tyr
145 150 155 160

Lys Cys Ile Asn Cys Lys Leu Leu Val His Lys Lys Cys His Lys Leu
165 170 175

Val Thr Ile Glu Cys Gly Arg His Ser Leu Pro Gln Glu Pro Val Met
180 185 190

Pro Met Asp Gln Ser Ser Met His Ser Asp His Ala Gln Thr Val Ile
195 200 205

Pro Tyr Asn Pro Ser Ser His Glu Ser Leu Asp Gln Val Gly Glu Glu
210 215 220

Lys Glu Ala Met Asn Thr Arg Glu Ser Gly Lys Ala Ser Ser Ser Leu
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Gly Leu Gln Asp Phe Asp Leu Leu Arg Val Ile Gly Arg Gly Ser Tyr

	245	250	255
Ala Lys Val Leu Leu Val Arg Leu Lys Lys Thr Asp Arg Ile Tyr Ala	260	265	270
Met Lys Val Val Lys Lys Glu Leu Val Asn Asp Asp Glu Asp Ile Asp	275	280	285
Trp Val Gln Thr Glu Lys His Val Phe Glu Gln Ala Ser Asn His Pro	290	295	300
Phe Leu Val Gly Leu His Ser Cys Phe Gln Thr Glu Ser Arg Leu Phe	305	310	315
Phe Val Ile Glu Tyr Val Asn Gly Gly Asp Leu Met Phe His Met Gln	325	330	335
Arg Gln Arg Lys Leu Pro Glu Glu His Ala Arg Phe Tyr Ser Ala Glu	340	345	350
Ile Ser Leu Ala Leu Asn Tyr Leu His Glu Arg Gly Ile Ile Tyr Arg	355	360	365
Asp Leu Lys Leu Asp Asn Val Leu Leu Asp Ser Glu Gly His Ile Lys	370	375	380
Leu Thr Asp Tyr Gly Met Cys Lys Glu Gly Leu Arg Pro Gly Asp Thr	385	390	395
Thr Ser Thr Phe Cys Gly Thr Pro Asn Tyr Ile Ala Pro Glu Ile Leu	405	410	415
Arg Gly Glu Asp Tyr Gly Phe Ser Val Asp Trp Trp Ala Leu Gly Val	420	425	430
Leu Met Phe Glu Met Met Ala Gly Arg Ser Pro Phe Asp Ile Val Gly	435	440	445
Ser Ser Asp Asn Pro Asp Gln Asn Thr Glu Asp Tyr Leu Phe Gln Val	450	455	460
Ile Leu Glu Lys Gln Ile Arg Ile Pro Arg Ser Leu Ser Val Lys Ala	465	470	475
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Ala Ser Val Leu Lys Ser Phe Leu Asn Lys Asp Pro Lys Glu Arg Leu
485 490 495

Gly Cys His Pro Gln Thr Gly Phe Ala Asp Ile Gln Gly His Pro Phe
500 505 510

Phe Arg Asn Val Asp Trp Asp Met Met Glu Gln Lys Gln Val Val Pro
515 520 525

Pro Phe Lys Pro Asn Ile Ser Gly Glu Phe Gly Leu Asp Asn Phe Asp
530 535 540

Ser Gln Phe Thr Asn Glu Pro Val Gln Leu Thr Pro Asp Asp Asp Asp
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Ile Val Arg Lys Ile Asp Gln Ser Glu Phe Glu Gly Phe Glu Tyr Ile
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Asn Pro Leu Leu Met Ser Ala Glu Glu Cys Val
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<400> 22

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Phe Gln Asn Thr Val Leu Val Trp Val Pro Cys Phe Tyr Leu Trp Ala
 35 40 45

Cys Phe Pro Phe Tyr Phe Leu Tyr Leu Ser Arg His Asp Arg Gly Tyr
 50 55 60

Ile Gln Met Thr Pro Leu Asn Lys Thr Lys Thr Ala Leu Gly Phe Leu
65 70 75 80

Leu Trp Ile Val Cys Trp Ala Asp Leu Phe Tyr Ser Phe Trp Glu Arg
85 90 95

Ser Arg Gly Ile Phe Leu Ala Pro Val Phe Leu Val Ser Pro Thr Leu
100 105 110

Leu Gly Ile Thr Thr Leu Leu Ala Thr Phe Leu Ile Gln Leu Glu Arg
115 120 125

Arg Lys Gly Val Gln Ser Ser Gly Ile Met Leu Thr Phe Trp Leu Val
130 135 140

Ala Leu Val Cys Ala Leu Ala Ile Leu Arg Ser Lys Ile Met Thr Ala
145 150 155 160

Leu Lys Glu Asp Ala Gln Val Asp Leu Phe Arg Asp Ile Thr Phe Tyr
165 170 175

Val Tyr Phe Ser Leu Leu Leu Ile Gln Leu Val Leu Ser Cys Phe Ser
180 185 190

Asp Arg Ser Pro Leu Phe Ser Glu Thr Ile His Asp Pro Asn Pro Cys
195 200 205

Pro Glu Ser Ser Ala Ser Phe Leu Ser Arg Ile Thr Phe Trp Trp Ile
210 215 220

Thr Gly Leu Ile Val Arg Gly Tyr Arg Gln Pro Leu Glu Gly Ser Asp
225 230 235 240

Leu Trp Ser Leu Asn Lys Glu Asp Thr Ser Glu Gln Val Val Pro Val
245 250 255

Leu Val Lys Asn Trp Lys Lys Glu Cys Ala Lys Thr Arg Lys Gln Pro
260 265 270

Val Lys Val Val Tyr Ser Ser Lys Asp Pro Ala Gln Pro Lys Glu Ser
275 280 285

Ser Lys Val Asp Ala Asn Glu Glu Val Glu Ala Leu Ile Val Lys Ser

290

295

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Pro Gln Lys Glu Trp Asn Pro Ser Leu Phe Lys Val Leu Tyr Lys Thr
 305 310 315 320

Phe Gly Pro Tyr Phe Leu Met Ser Phe Phe Phe Lys Ala Ile His Asp
 325 330 335

Leu Met Met Phe Ser Gly Pro Gln Ile Leu Lys Leu Leu Ile Lys Phe
 340 345 350

Val Asn Asp Thr Lys Ala Pro Asp Trp Gln Gly Tyr Phe Tyr Thr Val
 355 360 365

Leu Leu Phe Val Thr Ala Cys Leu Gln Thr Leu Val Leu His Gln Tyr
 370 375 380

Phe His Ile Cys Phe Val Ser Gly Met Arg Ile Lys Thr Ala Val Ile
 385 390 395 400

Gly Ala Val Tyr Arg Lys Ala Leu Val Ile Thr Asn Ser Ala Arg Lys
 405 410 415

Ser Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp Ala Gln
 420 425 430

Arg Phe Met Asp Leu Ala Thr Tyr Ile Asn Met Ile Trp Ser Ala Pro
 435 440 445

Leu Gln Val Ile Leu Ala Leu Tyr Leu Leu Trp Leu Asn Leu Gly Pro
 450 455 460

Ser Val Leu Ala Gly Val Ala Val Met Val Leu Met Val Pro Val Asn
 465 470 475 480

Ala Val Met Ala Met Lys Thr Lys Thr Tyr Gln Val Ala His Met Lys
 485 490 495

Ser Lys Asp Asn Arg Ile Lys Leu Met Asn Glu Ile Leu Asn Gly Ile
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Lys Val Leu Lys Leu Tyr Ala Trp Glu Leu Ala Phe Lys Asp Lys Val
 515 520 525

Leu Ala Ile Arg Gln Glu Glu Leu Lys Val Leu Lys Lys Ser Ala Tyr
530 535 540

Leu Ser Ala Val Gly Thr Phe Thr Trp Val Cys Thr Pro Phe Leu Val
545 550 555 560

Ala Leu Cys Thr Phe Ala Val Tyr Val Thr Ile Asp Glu Asn Asn Ile
565 570 575

Leu Asp Ala Gln Thr Ala Phe Val Ser Leu Ala Leu Phe Asn Ile Leu
580 585 590

Arg Phe Pro Leu Asn Ile Leu Pro Met Val Ile Ser Ser Ile Val Gln
595 600 605

Ala Ser Val Ser Leu Lys Arg Leu Arg Ile Phe Leu Ser His Glu Glu
610 615 620

Leu Glu Pro Asp Ser Ile Glu Arg Arg Pro Val Lys Asp Gly Gly Gly
625 630 635 640

Thr Asn Ser Ile Thr Val Arg Asn Ala Thr Phe Thr Trp Ala Arg Ser
645 650 655

Asp Pro Pro Thr Leu Asn Gly Ile Thr Phe Ser Ile Pro Glu Gly Ala
660 665 670

Leu Val Ala Val Val Gly Gln Val Gly Cys Gly Lys Ser Ser Leu Leu
675 680 685

Ser Ala Leu Leu Ala Glu Met Asp Lys Val Glu Gly His Val Ala Ile
690 695 700

Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Asp
705 710 715 720

Ser Leu Arg Glu Asn Ile Leu Phe Gly Cys Gln Leu Glu Glu Pro Tyr
725 730 735

Tyr Arg Ser Val Ile Gln Ala Cys Ala Leu Leu Pro Asp Leu Glu Ile
740 745 750

Leu Pro Ser Gly Asp Arg Thr Glu Ile Gly Glu Lys Gly Val Asn Leu
755 760 765

Ser Gly Gly Gln Lys Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser
770 775 780

Asn Ala Asp Ile Tyr Leu Phe Asp Asp Pro Leu Ser Ala Val Asp Ala
785 790 795 800

His Val Gly Lys His Ile Phe Glu Asn Val Ile Gly Pro Lys Gly Met
805 810 815

Leu Lys Asn Lys Thr Arg Ile Leu Val Thr His Ser Met Ser Tyr Leu
820 825 830

Pro Gln Val Asp Val Ile Ile Val Met Ser Gly Gly Lys Ile Ser Glu
835 840 845

Met Gly Ser Tyr Gln Glu Leu Leu Ala Arg Asp Gly Ala Phe Ala Glu
850 855 860

Phe Leu Arg Thr Tyr Ala Ser Thr Glu Gln Glu Gln Asp Ala Glu Glu
865 870 875 880

Asn Gly Val Thr Gly Val Ser Gly Pro Gly Lys Glu Ala Lys Gln Met
885 890 895

Glu Asn Gly Met Leu Val Thr Asp Ser Ala Gly Lys Gln Leu Gln Arg
900 905 910

Gln Leu Ser Ser Ser Ser Tyr Ser Gly Asp Ile Ser Arg His His
915 920 925

Asn Ser Thr Ala Glu Leu Gln Lys Ala Glu Ala Lys Lys Glu Glu Thr
930 935 940

Trp Lys Leu Met Glu Ala Asp Lys Ala Gln Thr Gly Gln Val Lys Leu
945 950 955 960

Ser Val Tyr Trp Asp Tyr Met Lys Ala Ile Gly Leu Phe Ile Ser Phe
965 970 975

Leu Ser Ile Phe Leu Phe Met Cys Asn His Val Ser Ala Leu Ala Ser
980 985 990

Asn Tyr Trp Leu Ser Leu Trp Thr Asp Asp Pro Ile Val Asn Gly Thr
995 1000 1005

Gln Glu His Thr Lys Val Arg Leu Ser Val Tyr Gly Ala Leu Gly
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Ile Ser Gln Gly Ile Ala Val Phe Gly Tyr Ser Met Ala Val Ser
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Ile Gly Gly Ile Leu Ala Ser Arg Cys Leu His Val Asp Leu Leu
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His Ser Ile Leu Arg Ser Pro Met Ser Phe Phe Glu Arg Thr Pro
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Ser Gly Asn Leu Val Asn Arg Phe Ser Lys Glu Leu Asp Thr Val
1070 1075 1080

Asp Ser Met Ile Pro Glu Val Ile Lys Met Phe Met Gly Ser Leu
1085 1090 1095

Phe Asn Val Ile Gly Ala Cys Ile Val Ile Leu Leu Ala Thr Pro
1100 1105 1110

Ile Ala Ala Ile Ile Ile Pro Pro Leu Gly Leu Ile Tyr Phe Phe
1115 1120 1125

Val Gln Arg Phe Tyr Val Ala Ser Ser Arg Gln Leu Lys Arg Leu
1130 1135 1140

Glu Ser Val Ser Arg Ser Pro Val Tyr Ser His Phe Asn Glu Thr
1145 1150 1155

Leu Leu Gly Val Ser Val Ile Arg Ala Phe Glu Glu Gln Glu Arg
1160 1165 1170

Phe Ile His Gln Ser Asp Leu Lys Val Asp Glu Asn Gln Lys Ala
1175 1180 1185

Tyr Tyr Pro Ser Ile Val Ala Asn Arg Trp Leu Ala Val Arg Leu

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Val Ile Ser Arg His Ser Leu Ser Ala Gly Leu Val Gly Leu Ser 1220 1225 1230		
Val Ser Tyr Ser Leu Gln Val Thr Thr Tyr Leu Asn Trp Leu Val 1235 1240 1245		
Arg Met Ser Ser Glu Met Glu Thr Asn Ile Val Ala Val Glu Arg 1250 1255 1260		
Leu Lys Glu Tyr Ser Glu Thr Glu Lys Glu Ala Pro Trp Gln Ile 1265 1270 1275		
Gln Glu Thr Ala Pro Pro Ser Ser Trp Pro Gln Val Gly Arg Val 1280 1285 1290		
Glu Phe Arg Asn Tyr Cys Leu Arg Tyr Arg Glu Asp Leu Asp Phe 1295 1300 1305		
Val Leu Arg His Ile Asn Val Thr Ile Asn Gly Gly Glu Lys Val 1310 1315 1320		
Gly Ile Val Gly Arg Thr Gly Ala Gly Lys Ser Ser Leu Thr Leu 1325 1330 1335		
Gly Leu Phe Arg Ile Asn Glu Ser Ala Glu Gly Glu Ile Ile Ile 1340 1345 1350		
Asp Gly Ile Asn Ile Ala Lys Ile Gly Leu His Asp Leu Arg Phe 1355 1360 1365		
Lys Ile Thr Ile Ile Pro Gln Asp Pro Val Leu Phe Ser Gly Ser 1370 1375 1380		
Leu Arg Met Asn Leu Asp Pro Phe Ser Gln Tyr Ser Asp Glu Glu 1385 1390 1395		
Val Trp Thr Ser Leu Glu Leu Ala His Leu Lys Asp Phe Val Ser 1400 1405 1410		

Ala Leu Pro Asp Lys Leu Asp His Glu Cys Ala Glu Gly Gly Glu
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Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala
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Leu Leu Arg Lys Thr Lys Ile Leu Val Leu Asp Glu Ala Thr Ala
1445 1450 1455

Ala Val Asp Leu Glu Thr Asp Asp Leu Ile Gln Ser Thr Ile Arg
1460 1465 1470

Thr Gln Phe Glu Asp Cys Thr Val Leu Thr Ile Ala His Arg Leu
1475 1480 1485

Asn Thr Ile Met Asp Tyr Thr Arg Val Ile Val Leu Asp Lys Gly
1490 1495 1500

Glu Ile Gln Glu Tyr Gly Ala Pro Ser Asp Leu Leu Gln Gln Arg
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Gly Leu Phe Tyr Ser Met Ala Lys Asp Ala Gly Leu Val
1520 1525 1530

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Asp Glu Ala Gly Asp Glu Gly Leu Ser Arg Phe Asn Lys Leu Arg Val
35 40 45

Val Val Ala Asp Asp Gly Ser Glu Ala Pro Glu Arg Pro Val Asn Gly
50 55 60

Ala His Pro Thr Leu Gln Ala Asp Asp Asp Ser Leu Leu Asp Gln Asp
65 70 75 80

Leu Pro Leu Thr Asn Ser Gln Leu Ser Leu Lys Val Asp Ser Cys Asp
85 90 95

Asn Cys Ser Lys Gln Arg Glu Ile Leu Lys Gln Arg Lys Val Lys Ala
100 105 110

Arg Leu Thr Ile Ala Ala Val Leu Tyr Leu Leu Phe Met Ile Gly Glu
115 120 125

Leu Val Gly Gly Tyr Ile Ala Asn Ser Leu Ala Ile Met Thr Asp Ala
130 135 140

Leu His Met Leu Thr Asp Leu Ser Ala Ile Ile Leu Thr Leu Leu Ala
145 150 155 160

Leu Trp Leu Ser Ser Lys Ser Pro Thr Lys Arg Phe Thr Phe Gly Phe
165 170 175

His Arg Leu Glu Val Leu Ser Ala Met Ile Ser Val Leu Leu Val Tyr
180 185 190

Ile Leu Met Gly Phe Leu Leu Tyr Glu Ala Val Gln Arg Thr Ile His
195 200 205

Met Asn Tyr Glu Ile Asn Gly Asp Ile Met Leu Ile Thr Ala Ala Val
210 215 220

Gly Val Ala Val Asn Val Ile Met Gly Phe Leu Leu Asn Gln Ser Gly
225 230 235 240

His Arg His Ser His Ser His Ser Leu Pro Ser Asn Ser Pro Thr Arg
245 250 255

Gly Ser Gly Cys Glu Arg Asn His Gly Gln Asp Ser Leu Ala Val Arg
260 265 270

Ala Ala Phe Val His Ala Leu Gly Asp Leu Val Gln Ser Val Gly Val
275 280 285

Leu Ile Ala Ala Tyr Ile Ile Arg Phe Lys Pro Glu Tyr Lys Ile Ala
290 295 300

Asp Pro Ile Cys Thr Tyr Val Phe Ser Leu Leu Val Ala Phe Thr Thr
305 310 315 320

Phe Arg Ile Ile Trp Asp Thr Val Val Ile Ile Leu Glu Gly Val Pro
325 330 335

Ser His Leu Asn Val Asp Tyr Ile Lys Glu Ala Leu Met Lys Ile Glu
340 345 350

Asp Val Tyr Ser Val Glu Asp Leu Asn Ile Trp Ser Leu Thr Ser Gly
355 360 365

Lys Ser Thr Ala Ile Val His Ile Gln Leu Ile Pro Gly Ser Ser Ser
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Lys Trp Glu Glu Val Gln Ser Lys Ala Asn His Leu Leu Leu Asn Thr
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Phe Gly Met Tyr Arg Cys Thr Ile Gln Leu Gln Ser Tyr Arg Gln Glu
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Pro Gln Lys Tyr Phe Ser Thr Leu Gln Pro Gly Leu Glu Glu Leu Asn
35 40 45

Asn Cys Val Lys Glu Glu Ile Ser Arg Tyr Cys Gly Lys Glu Lys Asp
65 70 75 80

Pro Thr Asp Thr Leu Phe Asp Val Asn Ala Ile Val Ala His Val Leu
100 105 110

Leu Gln Asn Ile Glu Asn Ala Leu Lys Gly Lys Ala Asn Ile Ile Phe

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Ala Gly Phe Val Tyr Gly Thr Thr Tyr Gln Phe Val Leu Thr Thr Glu		
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Ile Ala Leu Leu Glu Ser Ile Gly Ser Glu Asp Val Glu Tyr Ala His		
	180	185 190
Leu Tyr Phe Phe His Cys Lys Leu Val Leu Asp Leu Thr Gln Gln Cys		
	195	200 205
Arg Arg Thr Leu Met Glu Gln Pro Leu Thr Thr Leu Asn Ile His Leu		
	210	215 220
Phe Ile Lys Thr Met Lys Ala Pro Leu Leu Thr Glu Val Ala Glu Asp		
225	230	235 240
Pro Gln Gln Val Ser Thr Val His Leu Gln Leu Gly Leu Pro Leu Val		
	245	250 255
Phe Ile Val Ser Gln Gln Ala Thr Tyr Glu Ala Asp Arg Arg Thr Ala		
	260	265 270
Glu Trp Val Ala Trp Arg Leu Leu Gly Lys Ala Gly Val Leu Leu Leu		
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Leu Arg Asp Ser Leu Glu Val Asn Ile Pro Gln Asp Ala Asn Val Val		
	290	295 300
Phe Lys Arg Ala Glu Glu Gly Val Pro Val Glu Phe Leu Val Leu His		
305	310	315 320
Asp Val Asp Leu Ile Ile Ser His Val Glu Asn Asn Met His Ile Glu		
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Glu Ile Gln Glu Asp Glu Asp Asn Asp Met Glu Gly Pro Asp Ile Asp		
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Val Gln Asp Asp Glu Val Ala Glu Thr Val Phe Arg Asp Arg Lys Arg		
	355	360 365

Lys Leu Pro Leu Glu Leu Thr Val Glu Leu Thr Glu Glu Thr Phe Asn
370 375 380

Ala Thr Val Met Ala Ser Asp Ser Ile Val Leu Phe Tyr Ala Gly Trp
385 390 395 400

Gln Ala Val Ser Met Ala Phe Leu Gln Ser Tyr Ile Asp Val Ala Val
405 410 415

Lys Leu Lys Gly Thr Ser Thr Met Leu Leu Thr Arg Ile Asn Cys Ala
420 425 430

Asp Trp Ser Asp Val Cys Thr Lys Gln Asn Val Thr Glu Phe Pro Ile
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Ile Lys Met Tyr Lys Lys Gly Glu Asn Pro Val Ser Tyr Ala Gly Met
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Leu Gly Thr Lys Asp Leu Leu Lys Phe Ile Gln Leu Asn Arg Ile Ser
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Tyr Pro Val Asn Ile Thr Ser Ile Gln Glu Ala Glu Glu Tyr Leu Ser
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Gly Glu Leu Tyr Lys Asp Leu Ile Leu Tyr Ser Ser Val Ser Val Leu
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Gly Leu Phe Ser Pro Thr Met Lys Thr Ala Lys Glu Asp Phe Ser Glu
515 520 525

Ala Gly Asn Tyr Leu Lys Gly Tyr Val Ile Thr Gly Ile Tyr Ser Glu
530 535 540

Glu Asp Val Leu Leu Leu Ser Thr Lys Tyr Ala Ala Ser Leu Pro Ala
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Leu Leu Leu Ala Arg His Thr Glu Gly Lys Ile Glu Ser Ile Pro Leu
565 570 575

Ala Ser Thr His Ala Gln Asp Ile Val Gln Ile Ile Thr Asp Ala Leu
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Leu Glu Met Phe Pro Glu Ile Thr Val Glu Asn Leu Pro Ser Tyr Phe
595 600 605

Arg Leu Gln Lys Pro Leu Leu Ile Leu Phe Ser Asp Gly Thr Val Asn
610 615 620

Pro Gln Tyr Lys Lys Ala Ile Leu Thr Leu Val Lys Gln Lys Tyr Leu
625 630 635 640

Asp Ser Phe Thr Pro Cys Trp Leu Asn Leu Lys Asn Thr Pro Val Gly
645 650 655

Arg Gly Ile Leu Arg Ala Tyr Phe Asp Pro Leu Pro Pro Leu Pro Leu
660 665 670

Leu Val Leu Val Asn Leu His Ser Gly Gly Gln Val Phe Ala Phe Pro
675 680 685

Ser Asp Gln Ala Ile Ile Glu Glu Asn Leu Val Leu Trp Leu Lys Lys
690 695 700

Leu Glu Ala Gly Leu Glu Asn His Ile Thr Ile Leu Pro Ala Gln Glu
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Trp Lys Pro Pro Leu Pro Ala Tyr Asp Phe Leu Ser Met Ile Asp Ala
725 730 735

Ala Thr Ser Gln Arg Gly Thr Arg Lys Val Pro Lys Cys Met Lys Glu
740 745 750

Thr Asp Val Gln Glu Asn Asp Lys Glu Gln His Glu Asp Lys Ser Ala
755 760 765

Val Arg Lys Glu Pro Ile Glu Thr Leu Arg Ile Lys His Trp Asn Arg
770 775 780

Ser Asn Trp Phe Lys Glu Ala Glu Lys Ser Phe Arg Arg Asp Lys Glu
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Leu Gly Cys Ser Lys Val Asn
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Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys Asp Thr
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Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His Leu His Gln
35 40 45

Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu Leu Gln His Thr
50 55 60

Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile Lys Ile Ala Ala Ile
65 70 75 80

Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu Leu Arg Glu Val Ile His
85 90 95

Pro Leu Ala Thr Ser His Gln Gln Tyr Phe Tyr Lys Ile Pro Ile Leu
100 105 110

Val Ile Asn Lys Val Leu Pro Met Val Ser Ile Thr Leu Leu Ala Leu
115 120 125

Val Tyr Leu Pro Gly Val Ile Ala Ala Ile Val Gln Leu His Asn Gly
130 135 140

Thr Lys Tyr Lys Lys Phe Pro His Trp Leu Asp Lys Trp Met Leu Thr
145 150 155 160

Arg Lys Gln Phe Gly Leu Leu Ser Phe Phe Phe Ala Val Leu His Ala
165 170 175

Ile Tyr Ser Leu Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu
180 185 190

Leu Asn Trp Ala Tyr Gln Gln Val Gln Gln Asn Lys Glu Asp Ala Trp
195 200 205

Ile Glu His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile
210 215 220

Val Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser
225 230 235 240

Val Ser Asp Ser Leu Thr Trp Arg Glu Phe His Tyr Ile Gln Ser Lys
245 250 255

Leu Gly Ile Val Ser Leu Leu Leu Gly Thr Ile His Ala Leu Ile Phe
260 265 270

Ala Trp Asn Lys Trp Ile Asp Ile Lys Gln Phe Val Trp Tyr Thr Pro
275 280 285

Pro Thr Phe Met Ile Ala Val Phe Leu Pro Ile Val Val Leu Ile Phe
290 295 300

Lys Ser Ile Leu Phe Leu Pro Cys Leu Arg Lys Lys Ile Leu Lys Ile
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Ser Gln Leu

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<400> 30

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Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
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Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val
 35 40 45

Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
 50 55 60

Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile
 65 70 75 80

Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys
 85 90 95

Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr
 100 105 110

Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro
 115 120 125

Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly
 130 135 140

Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu
 145 150 155 160

Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser
 165 170 175

Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu
180 185 190

Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val
195 200 205

Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val
210 215 220

Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys
225 230 235 240

Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly
245 250 255

Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg
260 265 270

Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro
275 280 285

Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala
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Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys
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<212> DNA
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 attggatact gtgctagcaa gcatgctctc cgggggtttt ttaatggcct tcgaacagaa 660
 cttgccacat acccaggtat aatagtttct aacatttgcc caggacctgt gcaatcaaatt 720
 attgtggaga attccctagc tggagaagtc acaaagacta taggcaataa tggagaccag 780
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 atgccaacct gggcctggtg gataaccaac aagatgggga agaaaaggat tgagaacttt 960
 aagagtgggtg tggatgcaga ctcttcttat tttaaaatct ttaagacaaa acatgactga 1020

<210> 32
 <211> 339
 <212> PRT
 <213> human organism

<400> 32

Met Asn Trp Glu Leu Leu Trp Leu Leu Val Leu Cys Ala Leu Leu
 1 5 10 15

Leu Leu Leu Val Gln Leu Leu Arg Phe Leu Arg Ala Asp Gly Asp Leu
 20 25 30

Thr Leu Leu Trp Ala Glu Trp Gln Gly Arg Arg Pro Glu Trp Glu Leu
 35 40 45

Thr Asp Met Val Val Trp Val Thr Gly Ala Ser Ser Gly Ile Gly Glu
 50 55 60

Glu Leu Ala Tyr Gln Leu Ser Lys Leu Gly Val Ser Leu Val Leu Ser
 65 70 75 80

Ala Arg Arg Val His Glu Leu Glu Arg Val Lys Arg Arg Cys Leu Glu
 85 90 95

Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu Asp Leu
 100 105 110

Thr Asp Thr Gly Ser His Glu Ala Ala Thr Lys Ala Val Leu Gln Glu

115	120	125
Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly Met Ser Gln Arg		
130	135	140
Ser Leu Cys Met Asp Thr Ser Leu Asp Val Tyr Arg Lys Leu Ile Glu		
145	150	155
Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr Lys Cys Val Leu Pro His		
	165	170
Met Ile Glu Arg Lys Gln Gly Lys Ile Val Thr Val Asn Ser Ile Leu		
	180	190
Gly Ile Ile Ser Val Pro Leu Ser Ile Gly Tyr Cys Ala Ser Lys His		
	195	200
Ala Leu Arg Gly Phe Phe Asn Gly Leu Arg Thr Glu Leu Ala Thr Tyr		
	210	215
Pro Gly Ile Ile Val Ser Asn Ile Cys Pro Gly Pro Val Gln Ser Asn		
225	230	235
Ile Val Glu Asn Ser Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn		
	245	250
Asn Gly Asp Gln Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu		
	260	265
Met Leu Ile Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu		
	275	280
Gln Pro Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp		
	290	295
Ala Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe		
305	310	315
Lys Ser Gly Val Asp Ala Asp Ser Ser Tyr Phe Lys Ile Phe Lys Thr		
	325	330
Lys His Asp		

<210> 33
 <211> 1186
 <212> DNA
 <213> human organism

<400> 33
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 catgaggatt ctgcagttaa tcctgcttgc tctggcaaca gggcttgtag ggggagagac 180
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 cagcctcccc aacaaagacc accgcaatga catcatgctg gtgaagatgg catcgccagt 480
 ctccatcacc tgggctgtgc gacccctcac cctctcctca cgctgtgtca ctgctggcac 540
 cagctgcctc atttccggct ggggcagcac gtccagcccc cagttacgcc tgcctcacac 600
 cttgcgatgc gccaacatca ccatcattga gcaccagaag tgtgagaacg cctacccccg 660
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 gggtgactcc gggggccctc tgggtctgtaa ccagtctctt caaggcatta tctcctgggg 780
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 accctccatt tccacttggg gtttggttcc tgttcactct gttaataaga aaccctaagc 960
 caagaccctc tacgaacatt ctttgggcct cctggactac aggagatgct gtcacttaat 1020
 aatcaacctg gggttcgaaa tcagtgagac ctggattcaa attctgcctt gaaatattgt 1080
 gactctggga atgacaacac ctggtttggt ctctgttgta tcccagccc caaagacagc 1140
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<210> 34
 <211> 250
 <212> PRT
 <213> human organism

<400> 34

Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu Val

1	5	10	15
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Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro His Ser
 20 25 30

Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly
 35 40 45

Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu
 50 55 60

Lys Pro Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu
 65 70 75 80

Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro
 85 90 95

Gly Phe Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met
 100 105 110

Leu Val Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro
 115 120 125

Leu Thr Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Leu Ile
 130 135 140

Ser Gly Trp Gly Ser Thr Ser Ser Pro Gln Leu Arg Leu Pro His Thr
 145 150 155 160

Leu Arg Cys Ala Asn Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn
 165 170 175

Ala Tyr Pro Gly Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln
 180 185 190

Glu Gly Gly Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
 195 200 205

Cys Asn Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys
 210 215 220

Ala Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val
 225 230 235 240



Asp Trp Ile Gln Glu Thr Met Lys Asn Asn
245 250

<210> 35
<211> 1233
<212> DNA
<213> human organism

<400> 35
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ctctctagga gagcccaact ctgtcttggc gtcagtatcc tggctctgat cctcgctcgtg 180
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cgctttcccg agaccgtcct ggcgcgatgc gtcaagtaca ctgaaattca tcctgagatg 300
agacatgtag actgccaaag tgtatgggat gctttcaagg gtgcatttat ttcaaaacat 360
ccttgcaaca ttactgaaga agactatcag ccactaatga agttgggaac tcagaccgta 420
ccttgcaaca agattcttct ttggagcaga ataaaagatc tggcccatca gttcacacag 480
gtccagcggg acatgttcac cctggaggac acgctgctag gctaccttgc tgatgacctc 540
acatggtgtg gtgaattcaa cacttccaaa ataaactatc aatcttgccc agactggaga 600
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gaagctgcct gtgatgtggt ccatgtgatg ctcaatggat cccgcagtaa aatctttgac 720
aaaaacagca cttttgggag tgtggaagtc cataatttgc aaccagagaa ggttcagaca 780
ctagaggcct ggggtgataca tgggtggaaga gaagattcca gagacttatg ccaggatccc 840
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caataaggtc aatgccagag acggaagcct ttttcccaa agtcttaaaa taacttatat 1140
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aatgaaaatt gtatgttaag ttacttcctt tag 1233

<210> 36
<211> 300

<212> PRT
<213> human organism

<400> 36

Met Ala Asn Cys Glu Phe Ser Pro Val Ser Gly Asp Lys Pro Cys Cys
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Arg Leu Ser Arg Arg Ala Gln Leu Cys Leu Gly Val Ser Ile Leu Val
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Leu Ile Leu Val Val Val Leu Ala Val Val Val Pro Arg Trp Arg Gln
35 40 45

Thr Trp Ser Gly Pro Gly Thr Thr Lys Arg Phe Pro Glu Thr Val Leu
50 55 60

Ala Arg Cys Val Lys Tyr Thr Glu Ile His Pro Glu Met Arg His Val
65 70 75 80

Asp Cys Gln Ser Val Trp Asp Ala Phe Lys Gly Ala Phe Ile Ser Lys
85 90 95

His Pro Cys Asn Ile Thr Glu Glu Asp Tyr Gln Pro Leu Met Lys Leu
100 105 110

Gly Thr Gln Thr Val Pro Cys Asn Lys Ile Leu Leu Trp Ser Arg Ile
115 120 125

Lys Asp Leu Ala His Gln Phe Thr Gln Val Gln Arg Asp Met Phe Thr
130 135 140

Leu Glu Asp Thr Leu Leu Gly Tyr Leu Ala Asp Asp Leu Thr Trp Cys
145 150 155 160

Gly Glu Phe Asn Thr Ser Lys Ile Asn Tyr Gln Ser Cys Pro Asp Trp
165 170 175

Arg Lys Asp Cys Ser Asn Asn Pro Val Ser Val Phe Trp Lys Thr Val
180 185 190

Ser Arg Arg Phe Ala Glu Ala Ala Cys Asp Val Val His Val Met Leu
195 200 205

Asn Gly Ser Arg Ser Lys Ile Phe Asp Lys Asn Ser Thr Phe Gly Ser
 210 215 220

Val Glu Val His Asn Leu Gln Pro Glu Lys Val Gln Thr Leu Glu Ala
 225 230 235 240

Trp Val Ile His Gly Gly Arg Glu Asp Ser Arg Asp Leu Cys Gln Asp
 245 250 255

Pro Thr Ile Lys Glu Leu Glu Ser Ile Ile Ser Lys Arg Asn Ile Gln
 260 265 270

Phe Ser Cys Lys Asn Ile Tyr Arg Pro Asp Lys Phe Leu Gln Cys Val
 275 280 285

Lys Asn Pro Glu Asp Ser Ser Cys Thr Ser Glu Ile
 290 295 300

<210> 37
 <211> 3315
 <212> DNA
 <213> human organism

<400> 37
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 ttggtgaatt ttattcaagc aaattttaag aaacgagaat gtgtcttctt taccaaagat 180
 tccaaggcca cggagaatgt gtgcaagtgt ggctatgccc agagccagca catggaaggc 240
 acccagatca accaaagtga gaaatggaac tacaagaaac acaccaagga atttcctacc 300
 gacgcctttg gggatattca gtttgagaca ctggggaaga aagggaagta tatacgtctg 360
 tcttgcgaca cggacgcgga aatcctttac gagctgctga cccagcactg gcacctgaaa 420
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 tccaaccggg acaccctcat caggaattgc gatgctgagg gctatttttt agcccagtac 720
 cttatggatg acttcacaag agatccactg tatatcctgg acaacaacca cacacatttg 780
 ctgctcgtgg acaatggctg tcatggacat cccactgtcg aagcaaagct ccggaatcag 840

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 aataaaatca aatga 3315

<210> 38
 <211> 1104
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 <213> human organism

<400> 38

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Thr Leu Asp Ser Thr Arg Thr Leu Tyr Ser Ser Ala Ser Arg Ser Thr
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Asp Leu Ser Tyr Ser Glu Ser Asp Leu Val Asn Phe Ile Gln Ala Asn
 35 40 45

Phe Lys Lys Arg Glu Cys Val Phe Phe Thr Lys Asp Ser Lys Ala Thr
 50 55 60

Glu Asn Val Cys Lys Cys Gly Tyr Ala Gln Ser Gln His Met Glu Gly
 65 70 75 80

Thr Gln Ile Asn Gln Ser Glu Lys Trp Asn Tyr Lys Lys His Thr Lys

85

90

95

Glu Phe Pro Thr Asp Ala Phe Gly Asp Ile Gln Phe Glu Thr Leu Gly
 100 105 110

Lys Lys Gly Lys Tyr Ile Arg Leu Ser Cys Asp Thr Asp Ala Glu Ile
 115 120 125

Leu Tyr Glu Leu Leu Thr Gln His Trp His Leu Lys Thr Pro Asn Leu
 130 135 140

Val Ile Ser Val Thr Gly Gly Ala Lys Asn Phe Ala Leu Lys Pro Arg
 145 150 155 160

Met Arg Lys Ile Phe Ser Arg Leu Ile Tyr Ile Ala Gln Ser Lys Gly
 165 170 175

Ala Trp Ile Leu Thr Gly Gly Thr His Tyr Gly Leu Met Lys Tyr Ile
 180 185 190

Gly Glu Val Val Arg Asp Asn Thr Ile Ser Arg Ser Ser Glu Glu Asn
 195 200 205

Ile Val Ala Ile Gly Ile Ala Ala Trp Gly Met Val Ser Asn Arg Asp
 210 215 220

Thr Leu Ile Arg Asn Cys Asp Ala Glu Gly Tyr Phe Leu Ala Gln Tyr
 225 230 235 240

Leu Met Asp Asp Phe Thr Arg Asp Pro Leu Tyr Ile Leu Asp Asn Asn
 245 250 255

His Thr His Leu Leu Leu Val Asp Asn Gly Cys His Gly His Pro Thr
 260 265 270

Val Glu Ala Lys Leu Arg Asn Gln Leu Glu Lys Tyr Ile Ser Glu Arg
 275 280 285

Thr Ile Gln Asp Ser Asn Tyr Gly Gly Lys Ile Pro Ile Val Cys Phe
 290 295 300

Ala Gln Gly Gly Gly Lys Glu Thr Leu Lys Ala Ile Asn Thr Ser Ile
 305 310 315 320

Lys Asn Lys Ile Pro Cys Val Val Val Glu Gly Ser Gly Gln Ile Ala
325 330 335

Asp Val Ile Ala Ser Leu Val Glu Val Glu Asp Ala Leu Thr Ser Ser
340 345 350

Ala Val Lys Glu Lys Leu Val Arg Phe Leu Pro Arg Thr Val Ser Arg
355 360 365

Leu Pro Glu Glu Glu Thr Glu Ser Trp Ile Lys Trp Leu Lys Glu Ile
370 375 380

Leu Glu Cys Ser His Leu Leu Thr Val Ile Lys Met Glu Glu Ala Gly
385 390 395 400

Asp Glu Ile Val Ser Asn Ala Ile Ser Tyr Ala Leu Tyr Lys Ala Phe
405 410 415

Ser Thr Ser Glu Gln Asp Lys Asp Asn Trp Asn Gly Gln Leu Lys Leu
420 425 430

Leu Leu Glu Trp Asn Gln Leu Asp Leu Ala Asn Asp Glu Ile Phe Thr
435 440 445

Asn Asp Arg Arg Trp Glu Ser Ala Asp Leu Gln Glu Val Met Phe Thr
450 455 460

Ala Leu Ile Lys Asp Arg Pro Lys Phe Val Arg Leu Phe Leu Glu Asn
465 470 475 480

Gly Leu Asn Leu Arg Lys Phe Leu Thr His Asp Val Leu Thr Glu Leu
485 490 495

Phe Ser Asn His Phe Ser Thr Leu Val Tyr Arg Asn Leu Gln Ile Ala
500 505 510

Lys Asn Ser Tyr Asn Asp Ala Leu Leu Thr Phe Val Trp Lys Leu Val
515 520 525

Ala Asn Phe Arg Arg Gly Phe Arg Lys Glu Asp Arg Asn Gly Arg Asp
530 535 540

Glu Met Asp Ile Glu Leu His Asp Val Ser Pro Ile Thr Arg His Pro
545 550 555 560

Leu Gln Ala Leu Phe Ile Trp Ala Ile Leu Gln Asn Lys Lys Glu Leu
565 570 575

Ser Lys Val Ile Trp Glu Gln Thr Arg Gly Cys Thr Leu Ala Ala Leu
580 585 590

Gly Ala Ser Lys Leu Leu Lys Thr Leu Ala Lys Val Lys Asn Asp Ile
595 600 605

Asn Ala Ala Gly Glu Ser Glu Glu Leu Ala Asn Glu Tyr Glu Thr Arg
610 615 620

Ala Val Glu Leu Phe Thr Glu Cys Tyr Ser Ser Asp Glu Asp Leu Ala
625 630 635 640

Glu Gln Leu Leu Val Tyr Ser Cys Glu Ala Trp Gly Gly Ser Asn Cys
645 650 655

Leu Glu Leu Ala Val Glu Ala Thr Asp Gln His Phe Ile Ala Gln Pro
660 665 670

Gly Val Gln Asn Phe Leu Ser Lys Gln Trp Tyr Gly Glu Ile Ser Arg
675 680 685

Asp Thr Lys Asn Trp Lys Ile Ile Leu Cys Leu Phe Ile Ile Pro Leu
690 695 700

Val Gly Cys Gly Phe Val Ser Phe Arg Lys Lys Pro Val Asp Lys His
705 710 715 720

Lys Lys Leu Leu Trp Tyr Tyr Val Ala Phe Phe Thr Ser Pro Phe Val
725 730 735

Val Phe Ser Trp Asn Val Val Phe Tyr Ile Ala Phe Leu Leu Phe
740 745 750

Ala Tyr Val Leu Leu Met Asp Phe His Ser Val Pro His Pro Pro Glu
755 760 765

Leu Val Leu Tyr Ser Leu Val Phe Val Leu Phe Cys Asp Glu Val Arg
770 775 780

Gln Trp Tyr Val Asn Gly Val Asn Tyr Phe Thr Asp Leu Trp Asn Val
785 790 795 800

Met Asp Thr Leu Gly Leu Phe Tyr Phe Ile Ala Gly Ile Val Phe Arg
805 810 815

Leu His Ser Ser Asn Lys Ser Ser Leu Tyr Ser Gly Arg Val Ile Phe
820 825 830

Cys Leu Asp Tyr Ile Ile Phe Thr Leu Arg Leu Ile His Ile Phe Thr
835 840 845

Val Ser Arg Asn Leu Gly Pro Lys Ile Ile Met Leu Gln Arg Met Leu
850 855 860

Ile Asp Val Phe Phe Phe Leu Phe Leu Phe Ala Val Trp Met Val Ala
865 870 875 880

Phe Gly Val Ala Arg Gln Gly Ile Leu Arg Gln Asn Glu Gln Arg Trp
885 890 895

Arg Trp Ile Phe Arg Ser Val Ile Tyr Glu Pro Tyr Leu Ala Met Phe
900 905 910

Gly Gln Val Pro Ser Asp Val Asp Gly Thr Thr Tyr Asp Phe Ala His
915 920 925

Cys Thr Phe Thr Gly Asn Glu Ser Lys Pro Leu Cys Val Glu Leu Asp
930 935 940

Glu His Asn Leu Pro Arg Phe Pro Glu Trp Ile Thr Ile Pro Leu Val
945 950 955 960

Cys Ile Tyr Met Leu Ser Thr Asn Ile Leu Leu Val Asn Leu Leu Val
965 970 975

Ala Met Phe Gly Tyr Thr Val Gly Thr Val Gln Glu Asn Asn Asp Gln
980 985 990

Val Trp Lys Phe Gln Arg Tyr Phe Leu Val Gln Glu Tyr Cys Ser Arg

995				1000				1005			
Leu Asn	Ile Pro	Phe Pro	Phe	Ile Val	Phe Ala	Tyr	Phe Tyr	Met			
1010			1015			1020					
Val Val	Lys Lys	Cys Phe	Lys	Cys Cys	Cys Lys	Glu	Lys Asn	Met			
1025			1030			1035					
Glu Ser	Ser Val	Cys Cys	Phe	Lys Asn	Glu Asp	Asn	Glu Thr	Leu			
1040			1045			1050					
Ala Trp	Glu Gly	Val Met	Lys	Glu Asn	Tyr Leu	Val	Lys Ile	Asn			
1055			1060			1065					
Thr Lys	Ala Asn	Asp Thr	Ser	Glu Glu	Met Arg	His	Arg Phe	Arg			
1070			1075			1080					
Gln Leu	Asp Thr	Lys Leu	Asn	Asp Leu	Lys Gly	Leu	Leu Lys	Glu			
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Ile Ala	Asn Lys	Ile Lys									
1100											

<210> 39
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 <212> DNA
 <213> human organism

<400> 39	
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<400> 40

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Lys Leu Cys Gly Arg Glu Leu Val Arg Ala Gln Ile Ala Ile Cys Gly
35 40 45

Met Ser Thr Trp Ser Lys Arg Ser Leu Ser Gln Glu Asp Ala Pro Gln
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Thr Pro Arg Pro Val Ala Glu Ile Val Pro Ser Phe Ile Asn Lys Asp
65 70 75 80

Thr Glu Thr Ile Ile Ile Met Leu Glu Phe Ile Ala Asn Leu Pro Pro
85 90 95

Glu Leu Lys Ala Ala Leu Ser Glu Arg Gln Pro Ser Leu Pro Glu Leu
100 105 110

Gln Gln Tyr Val Pro Ala Leu Lys Asp Ser Asn Leu Ser Phe Glu Glu
115 120 125

Phe Lys Lys Leu Ile Arg Asn Arg Gln Ser Glu Ala Ala Asp Ser Asn
130 135 140

Pro Ser Glu Leu Lys Tyr Leu Gly Leu Asp Thr His Ser Gln Lys Lys
145 150 155 160

Arg Arg Pro Tyr Val Ala Leu Phe Glu Lys Cys Cys Leu Ile Gly Cys
165 170 175

Thr Lys Arg Ser Leu Ala Lys Tyr Cys
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<211> 3978
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<400> 42

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Asn Leu Cys Ser Arg Val Phe Phe Trp Trp Leu Asn Pro Leu Phe Lys
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Ile Gly His Lys Arg Arg Leu Glu Glu Asp Asp Met Tyr Ser Val Leu
 35 40 45

Pro Glu Asp Arg Ser Gln His Leu Gly Glu Glu Leu Gln Gly Phe Trp
 50 55 60

Asp Lys Glu Val Leu Arg Ala Glu Asn Asp Ala Gln Lys Pro Ser Leu
 65 70 75 80

Thr Arg Ala Ile Ile Lys Cys Tyr Trp Lys Ser Tyr Leu Val Leu Gly
 85 90 95

Ile Phe Thr Leu Ile Glu Glu Ser Ala Lys Val Ile Gln Pro Ile Phe
100 105 110

Leu Gly Lys Ile Ile Asn Tyr Phe Glu Asn Tyr Asp Pro Met Asp Ser
115 120 125

Val Ala Leu Asn Thr Ala Tyr Ala Tyr Ala Thr Val Leu Thr Phe Cys
130 135 140

Thr Leu Ile Leu Ala Ile Leu His His Leu Tyr Phe Tyr His Val Gln
145 150 155 160

Cys Ala Gly Met Arg Leu Arg Val Ala Met Cys His Met Ile Tyr Arg
165 170 175

Lys Ala Leu Arg Leu Ser Asn Met Ala Met Gly Lys Thr Thr Thr Gly
180 185 190

Gln Ile Val Asn Leu Leu Ser Asn Asp Val Asn Lys Phe Asp Gln Val
195 200 205

Thr Val Phe Leu His Phe Leu Trp Ala Gly Pro Leu Gln Ala Ile Ala
210 215 220

Val Thr Ala Leu Leu Trp Met Glu Ile Gly Ile Ser Cys Leu Ala Gly
225 230 235 240

Met Ala Val Leu Ile Ile Leu Leu Pro Leu Gln Ser Cys Phe Gly Lys
245 250 255

Leu Phe Ser Ser Leu Arg Ser Lys Thr Ala Thr Phe Thr Asp Ala Arg
260 265 270

Ile Arg Thr Met Asn Glu Val Ile Thr Gly Ile Arg Ile Ile Lys Met
275 280 285

Tyr Ala Trp Glu Lys Ser Phe Ser Asn Leu Ile Thr Asn Leu Arg Lys
290 295 300

Lys Glu Ile Ser Lys Ile Leu Arg Ser Ser Cys Leu Arg Gly Met Asn
305 310 315 320

Leu Ala Ser Phe Phe Ser Ala Ser Lys Ile Ile Val Phe Val Thr Phe

325

330

335

Thr Thr Tyr Val Leu Leu Gly Ser Val Ile Thr Ala Ser Arg Val Phe
 340 345 350

Val Ala Val Thr Leu Tyr Gly Ala Val Arg Leu Thr Val Thr Leu Phe
 355 360 365

Phe Pro Ser Ala Ile Glu Arg Val Ser Glu Ala Ile Val Ser Ile Arg
 370 375 380

Arg Ile Gln Thr Phe Leu Leu Leu Asp Glu Ile Ser Gln Arg Asn Arg
 385 390 395 400

Gln Leu Pro Ser Asp Gly Lys Lys Met Val His Val Gln Asp Phe Thr
 405 410 415

Ala Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr Leu Gln Gly Leu Ser
 420 425 430

Phe Thr Val Arg Pro Gly Glu Leu Leu Ala Val Val Gly Pro Val Gly
 435 440 445

Ala Gly Lys Ser Ser Leu Leu Ser Ala Val Leu Gly Glu Leu Ala Pro
 450 455 460

Ser His Gly Leu Val Ser Val His Gly Arg Ile Ala Tyr Val Ser Gln
 465 470 475 480

Gln Pro Trp Val Phe Ser Gly Thr Leu Arg Ser Asn Ile Leu Phe Gly
 485 490 495

Lys Lys Tyr Glu Lys Glu Arg Tyr Glu Lys Val Ile Lys Ala Cys Ala
 500 505 510

Leu Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly Asp Leu Thr Val Ile
 515 520 525

Gly Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln Lys Ala Arg Val Asn
 530 535 540

Leu Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile Tyr Leu Leu Asp Asp
 545 550 555 560

Pro Leu Ser Ala Val Asp Ala Glu Val Ser Arg His Leu Phe Glu Leu
565 570 575

Cys Ile Cys Gln Ile Leu His Glu Lys Ile Thr Ile Leu Val Thr His
580 585 590

Gln Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile Leu Ile Leu Lys Asp
595 600 605

Gly Lys Met Val Gln Lys Gly Thr Tyr Thr Glu Phe Leu Lys Ser Gly
610 615 620

Ile Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn Glu Glu Ser Glu Gln
625 630 635 640

Pro Pro Val Pro Gly Thr Pro Thr Leu Arg Asn Arg Thr Phe Ser Glu
645 650 655

Ser Ser Val Trp Ser Gln Gln Ser Ser Arg Pro Ser Leu Lys Asp Gly
660 665 670

Ala Leu Glu Ser Gln Asp Thr Glu Asn Val Pro Val Thr Leu Ser Glu
675 680 685

Glu Asn Arg Ser Glu Gly Lys Val Gly Phe Gln Ala Tyr Lys Asn Tyr
690 695 700

Phe Arg Ala Gly Ala His Trp Ile Val Phe Ile Phe Leu Ile Leu Leu
705 710 715 720

Asn Thr Ala Ala Gln Val Ala Tyr Val Leu Gln Asp Trp Trp Leu Ser
725 730 735

Tyr Trp Ala Asn Lys Gln Ser Met Leu Asn Val Thr Val Asn Gly Gly
740 745 750

Gly Asn Val Thr Glu Lys Leu Asp Leu Asn Trp Tyr Leu Gly Ile Tyr
755 760 765

Ser Gly Leu Thr Val Ala Thr Val Leu Phe Gly Ile Ala Arg Ser Leu
770 775 780

Leu Val Phe Tyr Val Leu Val Asn Ser Ser Gln Thr Leu His Asn Lys
785 790 795 800

Met Phe Glu Ser Ile Leu Lys Ala Pro Val Leu Phe Phe Asp Arg Asn
805 810 815

Pro Ile Gly Arg Ile Leu Asn Arg Phe Ser Lys Asp Ile Gly His Leu
820 825 830

Asp Asp Leu Leu Pro Leu Thr Phe Leu Asp Phe Ile Gln Thr Leu Leu
835 840 845

Gln Val Val Gly Val Val Ser Val Ala Val Ala Val Ile Pro Trp Ile
850 855 860

Ala Ile Pro Leu Val Pro Leu Gly Ile Ile Phe Ile Phe Leu Arg Arg
865 870 875 880

Tyr Phe Leu Glu Thr Ser Arg Asp Val Lys Arg Leu Glu Ser Thr Thr
885 890 895

Arg Ser Pro Val Phe Ser His Leu Ser Ser Ser Leu Gln Gly Leu Trp
900 905 910

Thr Ile Arg Ala Tyr Lys Ala Glu Glu Arg Cys Gln Glu Leu Phe Asp
915 920 925

Ala His Gln Asp Leu His Ser Glu Ala Trp Phe Leu Phe Leu Thr Thr
930 935 940

Ser Arg Trp Phe Ala Val Arg Leu Asp Ala Ile Cys Ala Met Phe Val
945 950 955 960

Ile Ile Val Ala Phe Gly Ser Leu Ile Leu Ala Lys Thr Leu Asp Ala
965 970 975

Gly Gln Val Gly Leu Ala Leu Ser Tyr Ala Leu Thr Leu Met Gly Met
980 985 990

Phe Gln Trp Cys Val Arg Gln Ser Ala Glu Val Glu Asn Met Met Ile
995 1000 1005

Ser Val	Glu Arg Val Ile Glu	Tyr Thr Asp Leu Glu	Lys Glu Ala
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Pro Trp	Glu Tyr Gln Lys Arg	Pro Pro Pro Ala Trp	Pro His Glu
1025	1030	1035	
Gly Val	Ile Ile Phe Asp Asn	Val Asn Phe Met Tyr	Ser Pro Gly
1040	1045	1050	
Gly Pro	Leu Val Leu Lys His	Leu Thr Ala Leu Ile	Lys Ser Gln
1055	1060	1065	
Glu Lys	Val Gly Ile Val Gly	Arg Thr Gly Ala Gly	Lys Ser Ser
1070	1075	1080	
Leu Ile	Ser Ala Leu Phe Arg	Leu Ser Glu Pro Glu	Gly Lys Ile
1085	1090	1095	
Trp Ile	Asp Lys Ile Leu Thr	Thr Glu Ile Gly Leu	His Asp Leu
1100	1105	1110	
Arg Lys	Lys Met Ser Ile Ile	Pro Gln Glu Pro Val	Leu Phe Thr
1115	1120	1125	
Gly Thr	Met Arg Lys Asn Leu	Asp Pro Phe Asn Glu	His Thr Asp
1130	1135	1140	
Glu Glu	Leu Trp Asn Ala Leu	Gln Glu Val Gln Leu	Lys Glu Thr
1145	1150	1155	
Ile Glu	Asp Leu Pro Gly Lys	Met Asp Thr Glu Leu	Ala Glu Ser
1160	1165	1170	
Gly Ser	Asn Phe Ser Val Gly	Gln Arg Gln Leu Val	Cys Leu Ala
1175	1180	1185	
Arg Ala	Ile Leu Arg Lys Asn	Gln Ile Leu Ile Ile	Asp Glu Ala
1190	1195	1200	
Thr Ala	Asn Val Asp Pro Arg	Thr Asp Glu Leu Ile	Gln Lys Lys
1205	1210	1215	
Ile Arg	Glu Lys Phe Ala His	Cys Thr Val Leu Thr	Ile Ala His

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Arg Leu Asn Thr Ile Ile Asp Ser Asp Lys Ile Met Val Leu Asp				
1235		1240		1245
Ser Gly Arg Leu Lys Glu Tyr Asp Glu Pro Tyr Val Leu Leu Gln				
1250		1255		1260
Asn Lys Glu Ser Leu Phe Tyr Lys Met Val Gln Gln Leu Gly Lys				
1265		1270		1275
Ala Glu Ala Ala Ala Leu Thr Glu Thr Ala Lys Gln Val Tyr Phe				
1280		1285		1290
Lys Arg Asn Tyr Pro His Ile Gly His Thr Asp His Met Val Thr				
1295		1300		1305
Asn Thr Ser Asn Gly Gln Pro Ser Thr Leu Thr Ile Phe Glu Thr				
1310		1315		1320
Ala Leu				
1325				

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 <211> 1140
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<400> 43	
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<210> 44
<211> 357
<212> PRT
<213> human organism

<400> 44

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Gly Lys Ala Val Asp Trp Phe Thr Phe Tyr Lys Leu Pro Lys Arg Gln
35 40 45

Asn Lys Glu Ser Gly Glu Thr Gly Leu Glu Tyr Leu Tyr Leu Asp Ser
50 55 60

Thr Thr Arg Ser Trp Arg Lys Ser Glu Gln Leu Met Asn Asp Thr Lys
65 70 75 80

Ser Val Leu Gly Arg Thr Leu Gln Gln Leu Tyr Glu Ala Tyr Ala Ser
85 90 95

Lys Ser Asn Asn Thr Ala Tyr Leu Ile Tyr Asn Asp Gly Val Pro Lys
100 105 110

Pro Val Asn Tyr Ser Arg Lys Tyr Gly His Thr Lys Gly Leu Leu Leu
115 120 125

Trp Asn Arg Val Gln Gly Phe Trp Leu Ile His Ser Ile Pro Gln Phe
130 135 140

Pro Pro Ile Pro Glu Glu Gly Tyr Asp Tyr Pro Pro Thr Gly Arg Arg
145 150 155 160

Asn Gly Gln Ser Gly Ile Cys Ile Thr Phe Lys Tyr Asn Gln Tyr Glu
165 170 175

Ala Ile Asp Ser Gln Leu Leu Val Cys Asn Pro Asn Val Tyr Ser Cys
180 185 190

Ser Ile Pro Ala Thr Phe His Gln Glu Leu Ile His Met Pro Gln Leu
195 200 205

Cys Thr Arg Ala Ser Ser Ser Glu Ile Pro Gly Arg Leu Leu Thr Thr
210 215 220

Leu Gln Ser Ala Gln Gly Gln Lys Phe Leu His Phe Ala Lys Ser Asp
225 230 235 240

Ser Phe Leu Asp Asp Ile Phe Ala Ala Trp Met Ala Gln Arg Leu Lys
245 250 255

Thr His Leu Leu Thr Glu Thr Trp Gln Arg Lys Arg Gln Glu Leu Pro
260 265 270

Ser Asn Cys Ser Leu Pro Tyr His Val Tyr Asn Ile Lys Ala Ile Lys
275 280 285

Leu Ser Arg His Ser Tyr Phe Ser Ser Tyr Gln Asp His Ala Lys Trp
290 295 300

Cys Ile Ser Gln Lys Gly Thr Lys Asn Arg Trp Thr Cys Ile Gly Asp
305 310 315 320

Leu Asn Arg Ser Pro His Gln Ala Phe Arg Ser Gly Gly Phe Ile Cys
325 330 335

Thr Gln Asn Trp Gln Ile Tyr Gln Ala Phe Gln Gly Leu Val Leu Tyr
340 345 350

Tyr Glu Ser Cys Lys
355

<210> 45
<211> 2243
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<213> human organism

<400> 45
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Pro Glu Val Phe Gly Leu His Pro Asn Ala Asp Ile Thr Tyr Gln Ser
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Pro Ala Met Glu Lys Glu Thr Lys Arg Ser Ser Thr Leu Pro Ala	1070	1075	1080
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Pro Gly Asn Gln Gly Arg Gln Phe Asp Val Asn Leu Gln Val Pro Asp
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Arg Ala Val Leu Gly Thr Ile His Pro Asp Pro Glu Ile Glu Glu Ser
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Lys Gln Glu Thr Ser Met Ile Leu Asp Ser Glu Lys Thr Ser Glu Thr
65 70 75 80

Ala Ala Lys Gly Val Asn Thr Gly Gly Arg Glu Pro Asn Thr Met Val
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Glu Lys Glu Arg Pro Leu Ala Asp Lys Lys Ala Gln Arg Pro Phe Glu
100 105 110

Arg Ser Asp Phe Ser Asp Ser Ile Lys Ile Gln Thr Pro Glu Leu Gly
115 120 125

Glu Val Phe Gln Asn Lys Asp Ser Asp Tyr Leu Lys Asn Asp Asn Pro
130 135 140

Glu Glu His Leu Lys Thr Ser Gly Leu Ala Gly Glu Pro Glu Gly Glu
145 150 155 160

Leu Ser Lys Glu Asp His Gly Asn Thr Glu Lys Tyr Met Gly Thr Glu
165 170 175

Ser Gln Gly Ser Ala Ala Ala Glu Pro Glu Asp Asp Ser Phe His Trp
180 185 190

Thr Pro His Thr Ser Val Glu Pro Gly His Ser Asp Lys Arg Glu Asp
195 200 205

Leu Leu Ile Ile Ser Ser Phe Phe Lys Glu Gln Gln Ser Leu Gln Arg
210 215 220

Phe Gln Lys Tyr Phe Asn Val His Glu Leu Glu Ala Leu Leu Gln Glu
225 230 235 240

Met Ser Ser Lys Leu Lys Ser Ala Gln Gln Glu Ser Leu Pro Tyr Asn

245

250

255

Met Glu Lys Val Leu Asp Lys Val Phe Arg Ala Ser Glu Ser Gln Ile
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Leu Ser Ile Ala Glu Lys Met Leu Asp Thr Arg Val Ala Glu Asn Arg
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Asp Leu Gly Met Asn Glu Asn Asn Ile Phe Glu Glu Ala Ala Val Leu
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Asp Asp Ile Gln Asp Leu Ile Tyr Phe Val Arg Tyr Lys His Ser Thr
 305 310 315 320

Ala Glu Glu Thr Ala Thr Leu Val Met Ala Pro Pro Leu Glu Glu Gly
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Leu Gly Gly Ala Met Glu Glu Met Gln Pro Leu His Glu Asp Asn Phe
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Ser Arg Glu Lys Thr Ala Glu Leu Asn Val Gln Val Pro Glu Glu Pro
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 405 410 415

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 420 425 430

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Trp Lys Pro Val Phe Ile Thr Ala Phe Leu Gly Ile Ala Ser Phe Ala
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Val Thr Glu Gln Gln Ile Ser Glu Lys Leu Lys Thr Ile Met Lys Glu
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Glu Ser Lys Lys His Val Gln Glu Thr Arg Lys Gln Asn Met Ile Leu
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Ser Asp Glu Ala Ile Lys Tyr Lys Asp Lys Ile Lys Thr Leu Glu Lys
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Ser Gln Lys Asp Leu Glu Val Ala Leu Thr His Lys Asp Asp Asn Ile
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850 855 860

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Glu Lys Lys Ala His Glu Asn Trp Leu Lys Ala Arg Ala Ala Glu Arg
885 890 895

Ala Ile Ala Glu Glu Lys Arg Glu Ala Ala Asn Leu Arg His Lys Leu
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Val Lys Pro Met Pro Gly Lys Pro Asn Thr Gln Asn Pro Pro Arg Arg
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Gly Pro Leu Ser Gln Asn Gly Ser Phe Gly Pro Ser Pro Val Ser Gly
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Ser Ala Thr Leu Asn Arg Arg Asp Met Pro Arg Ser Glu Phe Gly Ser
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Leu Pro Leu His Pro Arg Gly Phe Leu Pro Gly His Ala Pro Phe
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Arg Pro Leu Gly Ser Leu Gly Pro Arg Glu Tyr Phe Ile Pro Gly
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Thr Arg Leu Pro Pro Pro Thr His Gly Pro Gln Glu Tyr Pro Pro

1145

1150

1155

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Val Val Leu Ser Ile Asp Gly Ile Asn Ala Gln Gly Met Thr His Leu
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Glu Ala Gln Asn Lys Ile Lys Gly Cys Thr Gly Ser Leu Asn Met Thr
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Leu Gln Arg Ala Ser Ala Ala Pro Lys Pro Glu Pro Val Pro Val Gln
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Lys Gly Glu Pro Lys Glu Val Val Lys Pro Val Pro Ile Thr Ser Pro
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Ala Val Ser Lys Val Thr Ser Thr Asn Asn Met Ala Tyr Asn Lys Ala
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Pro Arg Pro Phe Gly Ser Val Ser Ser Pro Lys Val Thr Ser Ile Pro
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Ser Pro Ser Ser Ala Phe Thr Pro Ala His Ala Thr Thr Ser Ser His
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Ala Ser Pro Ser Pro Val Ala Ala Val Thr Pro Pro Leu Phe Ala Ala
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Val Thr Ser Val Cys Ser Glu Thr Ser Gln Glu Leu Ala Glu Gly Gln
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Pro Arg Thr Gly Thr Thr Gln Ser Arg Ser Phe Arg Ile Leu Ala Gln
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Lys Ala Asn Asn Ser Gln Glu Pro Ser Pro Gln Leu Ala Ser Leu Val
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Gly Ser Thr Gly Val Ile Lys Ser Pro Ser Trp Gln Arg Pro Asn Gln

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Gln Asp Thr Leu Val Gln Arg Ala Glu His Ile Pro Ala Gly Lys Arg
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Thr Pro Met Cys Ala His Cys Asn Gln Val Ile Arg Gly Pro Phe Leu
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Val Ala Leu Gly Lys Ser Trp His Pro Glu Glu Phe Asn Cys Ala His
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Cys Lys Asn Thr Met Ala Tyr Ile Gly Phe Val Glu Glu Lys Gly Ala
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Arg Cys Gln Arg Lys Ile Leu Gly Glu Val Ile Asn Ala Leu Lys Gln
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Thr Trp His Val Ser Cys Phe Val Cys Val Ala Cys Gly Lys Pro Ile
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Arg Asn Asn Val Phe His Leu Glu Asp Gly Glu Pro Tyr Cys Glu Thr
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Asp Tyr Tyr Ala Leu Phe Gly Thr Ile Cys His Gly Cys Glu Phe Pro
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Asp Thr Cys Phe Val Cys Ser Val Cys Cys Glu Ser Leu Glu Gly Gln
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Glu Thr Gly Leu Ile Cys Ala Thr Tyr Trp Gly Met Lys Ile Lys Pro
50 55 60

Gly Phe Met Gly Lys Ala Thr Pro Pro Tyr Asp Val Gln Phe His Met
65 70 75 80

Glu Ala Ser Val Glu Asn Cys Ile Ile Val Ser Met Asn Thr Ala Asp
85 90 95

Pro Gly Ser Gln Gly Ile Thr His Ser Leu Leu Leu Gln Val Ile Asp
100 105 110

Asp Lys Gly Ser Ile Leu Pro Pro Asn Thr Glu Gly Asn Ile Gly Ile
115 120 125

Arg Ile Lys Pro Val Arg Pro Val Ser Leu Phe Met Cys Tyr Glu Gly
130 135 140

Asp Pro Glu Lys Thr Ala Lys Val Glu Cys Gly Asp Phe Tyr Asn Thr
145 150 155 160

Gly Asp Arg Gly Lys Met Asp Glu Glu Gly Tyr Ile Cys Phe Leu Gly
165 170 175

Arg Ser Asp Asp Ile Ile Asn Ala Ser Gly Tyr Arg Ile Gly Pro Ala
180 185 190

Glu Val Glu Ser Ala Leu Val Glu His Pro Ala Val Ala Glu Ser Ala
195 200 205

Val Val Gly Ser Pro Asp Pro Ile Arg Gly Glu Val Val Lys Ala Phe
210 215 220

Ile Val Leu Thr Pro Gln Phe Leu Ser His Asp Lys Asp Gln Leu Thr
 225 230 235 240

Lys Glu Leu Gln Gln His Val Lys Ser Val Thr Ala Pro Tyr Lys Tyr
 245 250 255

Pro Arg Lys Val Glu Phe Val Ser Glu Leu Pro Lys Thr Ile Thr Gly
 260 265 270

Lys Ile Glu Arg Lys Glu Leu Arg Lys Lys Glu Thr Gly Gln Met
 275 280 285

<210> 55
 <211> 521
 <212> DNA
 <213> human organism

<400> 55
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 tggaaaaggg tcaactgaaat gggacgacat gaactcaagg aggctattta tgaccatgtc 180
 atttgcaaca tgaagaaagc ttatctggag tgaaagtaaa tgagaccaac agagataaga 240
 gacccggaga aatcctgggtt aactgcttg aatcctgtca gtcctatact ggagtcctgt 300
 taatacaaaa taatagtaat aatccctctg tttcttatgt ttatgccaac ttcaacaaaa 360
 agaaacttga ctaagagaca atataagaac ttaatgtgta attaagaaag aactctccac 420
 cacggggaat gtgaaaggta tatgagtccc ttttcacgat gcgatgtcat gtctttttaa 480
 taagccatac tttatgttca ataaaaagag aataagcagg a 521

<210> 56
 <211> 34
 <212> PRT
 <213> human organism

<400> 56

Met Cys Cys Glu Ile Tyr Tyr Arg Leu Leu Val Leu Lys Met Glu Lys
 1 5 10 15

Lys Ser Glu Glu Leu Arg Asn Met Asp Gly Leu Gly Asn Val Glu Lys
 20 25 30

Gly His

<210> 57
<211> 2064
<212> DNA
<213> human organism

<400> 57
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gaccttgcag caggatttgg aactctctgg agccaaactg gatgtggaag ctccaaaggt 540
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agctgtagag atacttacca gtttttctgc cctgattgga catgtgtaac tttagccacc 660
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 acagtaaaaa aagttcgaga aaatctagat aggcaccaac aagaacgaga aaataacatc 1860
 ccctgggtatc aaagcatgtt taactggaac ccatggctaa ctactttaat cactgggtta 1920
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<210> 58
 <211> 687
 <212> PRT
 <213> human organism

<400> 58

Met Asp Ser Cys Leu Gln His Met Arg Asp Leu Leu Tyr Leu Leu Gln
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Glu Leu Arg Cys Leu Asn Pro Ala Thr Leu Leu Pro Asp Pro Asp Ser
 20 25 30

Thr Thr Pro Val His Asp Cys Gln Asp Leu Leu Glu Thr Thr Lys Thr
 35 40 45

Gly Gln Pro Asp Leu Gln Asp Val Pro Leu Glu Lys Ala Asp Ala Thr
 50 55 60

Val Phe Thr Asp Gly Ser Ser Phe Leu Glu Gln Gly Glu Arg Lys Ala
 65 70 75 80

Val Ser Phe Pro Gln Pro Asp Leu Pro Asp Asn Pro Thr Tyr Ser Thr
 85 90 95

Glu Glu Glu Lys Leu Ala Ser Asp Val Gly Ala Asn Lys Asn Gln Glu
 100 105 110

Gly Arg Val Phe Ala Asn Thr Thr Trp Arg Ala Gly Thr Ser Lys Glu
115 120 125

Val Ser Phe Ala Val Asp Leu Cys Val Leu Phe Pro Glu Pro Ala Arg
130 135 140

Thr His Glu Glu Gln His Asn Leu Pro Val Ile Gly Ala Gly Ser Val
145 150 155 160

Asp Leu Ala Ala Gly Phe Gly His Ser Gly Ser Gln Thr Gly Cys Gly
165 170 175

Ser Ser Lys Gly Ala Glu Lys Gly Leu Gln Asn Val Asp Phe Tyr Leu
180 185 190

Cys Pro Gly Asn His Pro Asp Ala Ser Cys Arg Asp Thr Tyr Gln Phe
195 200 205

Phe Cys Pro Asp Trp Thr Cys Val Thr Leu Ala Thr Tyr Ser Gly Gly
210 215 220

Ser Thr Arg Ser Ser Thr Leu Ser Ile Ser Arg Val Pro His Pro Lys
225 230 235 240

Leu Cys Thr Arg Lys Asn Cys Asn Pro Leu Thr Ile Thr Val His Asp
245 250 255

Pro Asn Ala Ala Gln Trp Tyr Tyr Gly Met Ser Trp Gly Leu Arg Leu
260 265 270

Tyr Ile Pro Gly Phe Asp Val Gly Thr Met Phe Thr Ile Gln Lys Lys
275 280 285

Ile Leu Val Ser Trp Ser Ser Pro Lys Pro Ile Gly Pro Leu Thr Asp
290 295 300

Leu Gly Asp Pro Ile Phe Gln Lys His Pro Asp Lys Val Asp Leu Thr
305 310 315 320

Val Pro Leu Pro Phe Leu Val Pro Arg Pro Gln Leu Gln Gln Gln His
325 330 335

Leu Gln Pro Ser Leu Met Ser Ile Leu Gly Gly Val His His Leu Leu
340 345 350

Asn Leu Thr Gln Pro Lys Leu Ala Gln Asp Cys Trp Leu Cys Leu Lys
355 360 365

Ala Lys Pro Pro Tyr Tyr Val Gly Leu Gly Val Glu Ala Thr Leu Lys
370 375 380

Arg Gly Pro Leu Ser Cys His Thr Arg Pro Arg Ala Leu Thr Ile Gly
385 390 395 400

Asp Val Ser Gly Asn Ala Ser Cys Leu Ile Ser Thr Gly Tyr Asn Leu
405 410 415

Ser Ala Ser Pro Phe Gln Ala Thr Cys Asn Gln Ser Leu Leu Thr Ser
420 425 430

Ile Ser Thr Ser Val Ser Tyr Gln Ala Pro Asn Asn Thr Trp Leu Ala
435 440 445

Cys Thr Ser Gly Leu Thr Arg Cys Ile Asn Gly Thr Glu Pro Gly Pro
450 455 460

Leu Leu Cys Val Leu Val His Val Leu Pro Gln Val Tyr Val Tyr Ser
465 470 475 480

Gly Pro Glu Gly Arg Gln Leu Ile Ala Pro Pro Glu Leu His Pro Arg
485 490 495

Leu His Gln Ala Val Pro Leu Leu Val Pro Leu Leu Ala Gly Leu Ser
500 505 510

Ile Ala Gly Ser Ala Ala Ile Gly Thr Ala Ala Leu Val Gln Gly Glu
515 520 525

Thr Gly Leu Ile Ser Leu Ser Gln Gln Val Asp Ala Asp Phe Ser Asn
530 535 540

Leu Gln Ser Ala Ile Asp Ile Leu His Ser Gln Val Glu Ser Leu Ala
545 550 555 560

Glu Val Val Leu Gln Asn Cys Arg Cys Leu Asp Leu Leu Phe Leu Ser

565

570

575

Gln Gly Gly Leu Cys Ala Ala Leu Gly Glu Ser Cys Cys Phe Tyr Ala
580 585 590

Asn Gln Ser Gly Val Ile Lys Gly Thr Val Lys Lys Val Arg Glu Asn
595 600 605

Leu Asp Arg His Gln Gln Glu Arg Glu Asn Asn Ile Pro Trp Tyr Gln
610 615 620

Ser Met Phe Asn Trp Asn Pro Trp Leu Thr Thr Leu Ile Thr Gly Leu
625 630 635 640

Ala Gly Pro Leu Leu Ile Leu Leu Leu Ser Leu Ile Phe Gly Pro Cys
645 650 655

Ile Leu Asn Ser Phe Leu Asn Phe Ile Lys Gln Arg Ile Ala Ser Val
660 665 670

Lys Leu Thr Tyr Leu Lys Thr Gln Tyr Asp Thr Leu Val Asn Asn
675 680 685

<210> 59
<211> 2960
<212> DNA
<213> human organism

<400> 59
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gtgtgactca gaactaagtc tttatcatgt ggaatctact gtgaattcag aactcaaagc 300
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accctatatg aaatgtgttg cctggatatc taattatgat cctgaatgtc tgctggcagt 420
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caaagatttg ataggaaaag agtttgttcc aaaacatgca cgacaatgta atacccttgc 540
ctggaatcca ctggatagta actggctagc tgctggttta gataagcaca gagctgactt 600

ttcagtgcta atatgggata tctgcagcaa atatactcct gatatagttc ccatggaaaa	660
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gttcgtaaat acaaaagctg ttcaggggtg gacggtagac ccatatttcc acgatcgtgt	900
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aaaaaaaaa aaaaaaaaaa 2960

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<210> 60
<211> 567
<212> PRT
<213> human organism

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<400> 60

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Met Ser Gly Thr Lys Pro Asp Ile Leu Trp Ala Pro His His Val Asp
1           5           10           15

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Arg Phe Val Val Cys Asp Ser Glu Leu Ser Leu Tyr His Val Glu Ser
          20           25           30

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```

Thr Val Asn Ser Glu Leu Lys Ala Gly Ser Leu Arg Leu Ser Glu Asp
          35           40           45

```

```

Ser Ala Ala Thr Leu Leu Ser Ile Asn Ser Asp Thr Pro Tyr Met Lys
          50           55           60

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Cys Val Ala Trp Tyr Leu Asn Tyr Asp Pro Glu Cys Leu Leu Ala Val
65           70           75           80

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Gly Gln Ala Asn Gly Arg Val Val Leu Thr Ser Leu Gly Gln Asp His
          85           90           95

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Asn Ser Lys Phe Lys Asp Leu Ile Gly Lys Glu Phe Val Pro Lys His
          100          105          110

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Ala Arg Gln Cys Asn Thr Leu Ala Trp Asn Pro Leu Asp Ser Asn Trp
115 120 125

Leu Ala Ala Gly Leu Asp Lys His Arg Ala Asp Phe Ser Val Leu Ile
130 135 140

Trp Asp Ile Cys Ser Lys Tyr Thr Pro Asp Ile Val Pro Met Glu Lys
145 150 155 160

Val Lys Leu Ser Ala Gly Glu Thr Glu Thr Thr Leu Leu Val Thr Lys
165 170 175

Pro Leu Tyr Glu Leu Gly Gln Asn Asp Ala Cys Leu Ser Leu Cys Trp
180 185 190

Leu Pro Arg Asp Gln Lys Leu Leu Leu Ala Gly Met His Arg Asn Leu
195 200 205

Ala Ile Phe Asp Leu Arg Asn Thr Ser Gln Lys Met Phe Val Asn Thr
210 215 220

Lys Ala Val Gln Gly Val Thr Val Asp Pro Tyr Phe His Asp Arg Val
225 230 235 240

Ala Ser Phe Tyr Glu Gly Gln Val Ala Ile Trp Asp Leu Arg Lys Phe
245 250 255

Glu Lys Pro Val Leu Thr Leu Thr Glu Gln Pro Lys Pro Leu Thr Lys
260 265 270

Val Ala Trp Cys Pro Thr Arg Thr Gly Leu Leu Ala Thr Leu Thr Arg
275 280 285

Asp Ser Asn Ile Ile Arg Leu Tyr Asp Met Gln His Thr Pro Thr Pro
290 295 300

Ile Gly Asp Glu Thr Glu Pro Thr Ile Ile Glu Arg Ser Val Gln Pro
305 310 315 320

Cys Asp Asn Tyr Ile Ala Ser Phe Ala Trp His Pro Thr Ser Gln Asn
325 330 335

Arg Met Ile Val Val Thr Pro Asn Arg Thr Met Ser Asp Phe Thr Val
340 345 350

Phe Glu Arg Ile Ser Leu Ala Trp Ser Pro Ile Thr Ser Leu Met Trp
355 360 365

Ala Cys Gly Arg His Leu Tyr Glu Cys Thr Glu Glu Glu Asn Asp Asn
370 375 380

Ser Leu Glu Lys Asp Ile Ala Thr Lys Met Arg Leu Arg Ala Leu Ser
385 390 395 400

Arg Tyr Gly Leu Asp Thr Glu Gln Val Trp Arg Asn His Ile Leu Ala
405 410 415

Gly Asn Glu Asp Pro Gln Leu Lys Ser Leu Trp Tyr Thr Leu His Phe
420 425 430

Met Lys Gln Tyr Thr Glu Asp Met Asp Gln Lys Ser Pro Gly Asn Lys
435 440 445

Gly Ser Leu Val Tyr Ala Gly Ile Lys Ser Ile Val Lys Ser Ser Leu
450 455 460

Gly Met Val Glu Ser Ser Arg His Asn Trp Ser Gly Leu Asp Lys Gln
465 470 475 480

Ser Asp Ile Gln Asn Leu Asn Glu Glu Arg Ile Leu Ala Leu Gln Leu
485 490 495

Cys Gly Trp Ile Lys Lys Gly Thr Asp Val Asp Val Gly Pro Phe Leu
500 505 510

Asn Ser Leu Val Gln Glu Gly Glu Trp Glu Arg Ala Ala Ala Val Ala
515 520 525

Leu Phe Asn Leu Asp Ile Arg Arg Ala Ile Gln Ile Leu Asn Glu Gly
530 535 540

Ala Ser Ser Glu Lys Gly Arg Arg Ser Glu Ser Gln Cys Gly Ser Asn
545 550 555 560

Gly Phe Ile Gly Leu Tyr Gly
565

<210> 61
<211> 856
<212> DNA
<213> human organism

<220>
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<222> (37)..(37)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (757)..(757)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (769)..(769)
<223> n is a, c, g, or t

<400> 61
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gagtcctggc tttgtaaaat gacttataaa ggtccaagga tttagagatg attaagagat 180
aagctggcat tctgtaaagg caccatcgtc tatccctgt cttatctaga taaagaatgt 240
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ccatattgtt gtatttcatt gtgggtgtatt ggaaagtgat ctggactttg agtgagaaga 360
tgtgatttgg accatggcac ttaaaaactc tataacctca ggcaagtctt ttaatcttct 420
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<210> 62
<211> 348
<212> PRT
<213> human organism

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<400> 62

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Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
35 40 45

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
65 70 75 80

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
85 90 95

Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
100 105 110

Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
115 120 125

Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
130 135 140

Met Asn Ser Ala Pro Thr Phe Xaa His Xaa Pro Pro Lys Gly Arg Pro
145 150 155 160

Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Xaa Arg Arg Asn Asn Leu Glu Phe
210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser
260 265 270

Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn
275 280 285

Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser
290 295 300

Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly Leu Gly
305 310 315 320

Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg Ser Lys
325 330 335

Tyr His Gly Tyr Pro Tyr Ser Asp Leu Asp Phe Glu
340 345

<210> 63
<211> 1130
<212> DNA

<213> human organism

<400> 63

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aaaaaataca aaacaaaaag attaaattgc tattgctgta gtaagagaag ctctttgtat      900
ctgaacatag ttgtatttga aatttggtgt tttttaattt atttaaaatt ggggggaggg      960
catgggaagg atttaacacc gatatatgtt taccgctgaa aatgaacttt atgaaccttt     1020
tccaagttga tctatccagt gacgtggcct ggtgggcgtt tcttcttgta cttatgtggg     1080
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<210> 64

<211> 150

<212> PRT

<213> human organism

<400> 64

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Gly Arg Arg Thr Gly Arg Leu Arg Pro Ala Ala Ala Pro Ser Ala Ala
1           5           10          15
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Ala Ala Thr Ala Gly Ala Pro Thr Ala Leu Pro Ala Tyr Pro Ala Ala
          20          25          30
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Glu Pro Pro Gly Pro Leu Trp Leu Gln Gly Glu Pro Leu His Phe Cys
 35 40 45

Cys Leu Asp Phe Ser Leu Glu Leu Gln Gly Glu Pro Gly Trp Arg
 50 55 60

Leu Asn Arg Lys Pro Ile Glu Ser Thr Leu Val Ala Cys Phe Met Thr
 65 70 75 80

Leu Val Ile Val Val Trp Ser Val Ala Ala Leu Ile Trp Pro Val Pro
 85 90 95

Ile Ile Ala Gly Phe Leu Pro Asn Gly Met Glu Gln Arg Arg Thr Thr
 100 105 110

Ala Ser Thr Thr Ala Ala Thr Pro Ala Ala Val Pro Ala Gly Thr Thr
 115 120 125

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Val Thr
 130 135 140

Ser Gly Val Ala Thr Lys
 145 150

<210> 65
 <211> 1521
 <212> DNA
 <213> human organism

<220>
 <221> misc_feature
 <222> (798)..(798)
 <223> n is a, c, g, or t

<400> 65
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 cgcgtaggag agacactgcc ctgccgcgat gggggcccg ggcgctcctt cacgccgtag 180
 gcaagcgggg cggcggctgc ggtacctgcc caccgggagc tttcccttcc ttctcctgct 240
 gctgctgctc tgcattccagc tcgggggagg acagaagaaa aaggagaatc ttttagctga 300
 aaaagtagag cagctgatgg aatggagttc cagacgctca atcttccgaa tgaatggtga 360
 taaattccga aaatttataa aggcaccacc tcgaaactat tccatgattg ttatgttcac 420

tgctcttcag cctcagcggc agtggttctgt gtgcaggcaa gctaatagaag aatatcaa	480
actggcggaac tcctggcgct attcatctgc tttttgtaac aagctcttct tcagtatggt	540
ggactatgat gaggggacag acgtttttca gcagctcaac atgaactctg ctccacatt	600
caygcatttw cctccaaaag gcagacctaa gagagctgat acttttgacc tccaaagaat	660
tggatttgca gctgagcaac tagcaaagtg gattgctgac agaacggatg ttcatatctg	720
ggttttcaga ccacccaact actctggtac cattgctttg gccctgtag tgctgcttgt	780
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ccgtggacct ccatatgctc ataagaacct acacaatgga caagtgagct acattcatgg	960
gagcagccag gctcagtttg tggcagaatc acacattatt ctggtactga atgccgctat	1020
caccatgggg atggttcttc taaatgaagc agcaacttcg aaaggcgatg ttggaaaaag	1080
acggataatt tgcctagtgg gattgggcct ggtggtcttc ttcttcagtt ttctactttc	1140
aatatttcgt tccaagtacc acggctatcc ttatagtgat ctggactttg agtgagaaga	1200
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ctattttgaa ttcattcatt tcattgtgat cagctagctt attcttgtgt acttttttta	1380
aactgtgggt tttcctagta aatttaattt acagaaatca atggtagcat ttagtaatct	1440
acaaaggaaa tatcaaagtg tttttcaagc ctggtataty cagtgtgtkc cacaggattg	1500
caataaatga caatgtaatt a	1521

<210> 66
 <211> 348
 <212> PRT
 <213> human organism

<220>
 <221> misc_feature
 <222> (152)..(152)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> misc_feature
 <222> (154)..(154)
 <223> Xaa can be any naturally occurring amino acid

<220>

<221> misc_feature
<222> (217)..(217)
<223> Xaa can be any naturally occurring amino acid

<400> 66

Met Gly Ala Arg Gly Ala Pro Ser Arg Arg Arg Gln Ala Gly Arg Arg
1 5 10 15

Leu Arg Tyr Leu Pro Thr Gly Ser Phe Pro Phe Leu Leu Leu Leu Leu
20 25 30

Leu Leu Cys Ile Gln Leu Gly Gly Gly Gln Lys Lys Lys Glu Asn Leu
35 40 45

Leu Ala Glu Lys Val Glu Gln Leu Met Glu Trp Ser Ser Arg Arg Ser
50 55 60

Ile Phe Arg Met Asn Gly Asp Lys Phe Arg Lys Phe Ile Lys Ala Pro
65 70 75 80

Pro Arg Asn Tyr Ser Met Ile Val Met Phe Thr Ala Leu Gln Pro Gln
85 90 95

Arg Gln Cys Ser Val Cys Arg Gln Ala Asn Glu Glu Tyr Gln Ile Leu
100 105 110

Ala Asn Ser Trp Arg Tyr Ser Ser Ala Phe Cys Asn Lys Leu Phe Phe
115 120 125

Ser Met Val Asp Tyr Asp Glu Gly Thr Asp Val Phe Gln Gln Leu Asn
130 135 140

Met Asn Ser Ala Pro Thr Phe Xaa His Xaa Pro Pro Lys Gly Arg Pro
145 150 155 160

Lys Arg Ala Asp Thr Phe Asp Leu Gln Arg Ile Gly Phe Ala Ala Glu
165 170 175

Gln Leu Ala Lys Trp Ile Ala Asp Arg Thr Asp Val His Ile Arg Val
180 185 190

Phe Arg Pro Pro Asn Tyr Ser Gly Thr Ile Ala Leu Ala Leu Leu Val
195 200 205

Ser Leu Val Gly Gly Leu Leu Tyr Xaa Arg Arg Asn Asn Leu Glu Phe
 210 215 220

Ile Tyr Asn Lys Thr Gly Trp Ala Met Val Ser Leu Cys Ile Val Phe
 225 230 235 240

Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly Pro Pro Tyr
 245 250 255

Ala His Lys Asn Pro His Asn Gly Gln Val Ser Tyr Ile His Gly Ser
 260 265 270

Ser Gln Ala Gln Phe Val Ala Glu Ser His Ile Ile Leu Val Leu Asn
 275 280 285

Ala Ala Ile Thr Met Gly Met Val Leu Leu Asn Glu Ala Ala Thr Ser
 290 295 300

Lys Gly Asp Val Gly Lys Arg Arg Ile Ile Cys Leu Val Gly Leu Gly
 305 310 315 320

Leu Val Val Phe Phe Phe Ser Phe Leu Leu Ser Ile Phe Arg Ser Lys
 325 330 335

Tyr His Gly Tyr Pro Tyr Ser Asp Leu Asp Phe Glu
 340 345

<210> 67
 <211> 2306
 <212> DNA
 <213> human organism

<400> 67
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 aggttggcag gtgaccagag gaatgcttcc taccctcatt gccttcagtt ttacttgcag 180
 ccaccttctg aaaacatatc tttaacagaa tttgaaaact tggctattga tagagttaaa 240
 ttgttaaaat cagttgaaaa tcttggagtg agctatgtga aaggaactga acaataccag 300
 agtaagttgg agagtgaact tcggaagctc aagttttcct acagagagaa gctagaagat 360
 gaatatgaac cacgaagaag agatcatatt tctcatttta ttttgcggtc tgcttattgc 420

cagtctgaag aacttagacg ctggttcatt caacaagaaa tggatctcct tcgattttaga	480
tttagtattt tacccaagga taaaattcag gattttcttaa aggatagcca attgcagttt	540
gaggctataa gtgatgaaga gaagactcct cgagaacagg agattggtgc ctcatcacca	600
agtttaagtg gacttaagtt ggggttcgag tccatttata agatcccttt tgctgatgct	660
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aaggacattg tggcaatcat cctgaatgaa tttagagcca aactgtccaa ggctttggca	780
ttaacagcca ggtccttgcc tgctgtgcag tctgatgaaa gacttcagcc tctgctcaat	840
cacctcagtc attcctacac tggccaagat tacagtaccc agggaaatgt tgggaagatt	900
tcttttagatc agattgattt gctttctacc aaatccttcc caccttgcat gcgtcagtta	960
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ctgtccaatc caccaagcca aggggattat catgggtgcc cattccgtca cagtgatcca	1260
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cacaatgtgg atgattgtgg cttttctttg aatcatccta atcagttctt ttgtgagagc	1440
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caacccaaac caagtgtcca gaaaaccaag gatgcatcat ctgctctggc ctctttaaat	1560
tcctctctgg aatggatat ggaaggacta gaagattact ttagtgaaga ttcttaggca	1620
gttttataac cttttttcct caatagcctg tttcctgttt ttaagatttt gcctttgttg	1680
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taaccttttc gtttaacttc tctcttcact gcacccaat ccacttacag gcatgcacac	2040
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aaggaaagag gaggagtttc tattaaaatc tgtcacttga gtgatgtcat ttaagtccta	2160

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 atttttgtta ataaatatca aagtgt 2306

<210> 68
 <211> 509
 <212> PRT
 <213> human organism

<400> 68

Met Glu Phe Ser Gly Arg Lys Arg Arg Lys Leu Arg Leu Ala Gly Asp
 1 5 10 15

Gln Arg Asn Ala Ser Tyr Pro His Cys Leu Gln Phe Tyr Leu Gln Pro
 20 25 30

Pro Ser Glu Asn Ile Ser Leu Thr Glu Phe Glu Asn Leu Ala Ile Asp
 35 40 45

Arg Val Lys Leu Leu Lys Ser Val Glu Asn Leu Gly Val Ser Tyr Val
 50 55 60

Lys Gly Thr Glu Gln Tyr Gln Ser Lys Leu Glu Ser Glu Leu Arg Lys
 65 70 75 80

Leu Lys Phe Ser Tyr Arg Glu Lys Leu Glu Asp Glu Tyr Glu Pro Arg
 85 90 95

Arg Arg Asp His Ile Ser His Phe Ile Leu Arg Leu Ala Tyr Cys Gln
 100 105 110

Ser Glu Glu Leu Arg Arg Trp Phe Ile Gln Gln Glu Met Asp Leu Leu
 115 120 125

Arg Phe Arg Phe Ser Ile Leu Pro Lys Asp Lys Ile Gln Asp Phe Leu
 130 135 140

Lys Asp Ser Gln Leu Gln Phe Glu Ala Ile Ser Asp Glu Glu Lys Thr
 145 150 155 160

Leu Arg Glu Gln Glu Ile Val Ala Ser Ser Pro Ser Leu Ser Gly Leu
 165 170 175

Lys Leu Gly Phe Glu Ser Ile Tyr Lys Ile Pro Phe Ala Asp Ala Leu
180 185 190

Asp Leu Phe Arg Gly Arg Lys Val Tyr Leu Glu Asp Gly Phe Ala Tyr
195 200 205

Val Pro Leu Lys Asp Ile Val Ala Ile Ile Leu Asn Glu Phe Arg Ala
210 215 220

Lys Leu Ser Lys Ala Leu Ala Leu Thr Ala Arg Ser Leu Pro Ala Val
225 230 235 240

Gln Ser Asp Glu Arg Leu Gln Pro Leu Leu Asn His Leu Ser His Ser
245 250 255

Tyr Thr Gly Gln Asp Tyr Ser Thr Gln Gly Asn Val Gly Lys Ile Ser
260 265 270

Leu Asp Gln Ile Asp Leu Leu Ser Thr Lys Ser Phe Pro Pro Cys Met
275 280 285

Arg Gln Leu His Lys Ala Leu Arg Glu Asn His His Leu Arg His Gly
290 295 300

Gly Arg Met Gln Tyr Gly Leu Phe Leu Lys Gly Ile Gly Leu Thr Leu
305 310 315 320

Glu Gln Ala Leu Gln Phe Trp Lys Gln Glu Phe Ile Lys Gly Lys Met
325 330 335

Asp Pro Asp Lys Phe Asp Lys Gly Tyr Ser Tyr Asn Ile Arg His Ser
340 345 350

Phe Gly Lys Glu Gly Lys Arg Thr Asp Tyr Thr Pro Phe Ser Cys Leu
355 360 365

Lys Ile Ile Leu Ser Asn Pro Pro Ser Gln Gly Asp Tyr His Gly Cys
370 375 380

Pro Phe Arg His Ser Asp Pro Glu Leu Leu Lys Gln Lys Leu Gln Ser
385 390 395 400

Tyr Lys Ile Ser Pro Gly Gly Ile Ser Gln Ile Leu Asp Leu Val Lys
405 410 415

Gly Thr His Tyr Gln Val Ala Cys Gln Lys Tyr Phe Glu Met Ile His
420 425 430

Asn Val Asp Asp Cys Gly Phe Ser Leu Asn His Pro Asn Gln Phe Phe
435 440 445

Cys Glu Ser Gln Arg Ile Leu Asn Gly Gly Lys Asp Ile Lys Lys Glu
450 455 460

Pro Ile Gln Pro Glu Thr Pro Gln Pro Lys Pro Ser Val Gln Lys Thr
465 470 475 480

Lys Asp Ala Ser Ser Ala Leu Ala Ser Leu Asn Ser Ser Leu Glu Met
485 490 495

Asp Met Glu Gly Leu Glu Asp Tyr Phe Ser Glu Asp Ser
500 505

<210> 69

<211> 1901

<212> DNA

<213> human organism

<400> 69

aattcataca ggagagaagt catatatatg cagtgattgt ggaaaaggct tcatcaagaa	60
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gtgtgggaag gccttctcca aaaggctccag gctcactgaa caccagagaa ctcatcacagg	180
agagaagccc tatgaatgca ctgaatgtga caaagcattc cgctggaaat cacagctcaa	240
tgcacatcag aaagctcaca caggagagaa gtcatatata tgccgtgatt gtggaaaagg	300
cttcattcag aagggaatc tcattgtaca tcagcgaatt catactggag aaaaacccta	360
tatatgcaat gaatgtggaa aaggcttcat ccaaaagggc aacctcctta ttcacgacg	420
tactcacact ggagagaaac cctatgaatg caatgaatgt gggaaaggct tcagccagaa	480
gacatgttta atatcccatc agagatttca cacaggaaag acaccctttg tatgtactga	540
gtgtggaaaa tcctgctcac acaagtcagg tctcattaac caccagagaa ttcacacagg	600
agagaaaccc tatacatgca gtgactgtgg gaaagctttc agagataaat catgtctcaa	660

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cagacatcgg agaactcata caggggagag accgtatgga tgctctgatt gtgggaaagc 720
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tgtaggttca gtcaaattgg aaaatccttg ctgagagagt catagcttat cacatacacg 840
tgatctcata caggataaag actctgttaa catggtgact ctgcagatgc cttctgtggc 900
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gtaactagaa catcttcac aaatatgaa agaacacacg aagcaaataa gccctgtgaa 1500
aaggagtatt ttagagattt cgatcagaaa tctaactca ttatatggca gataatatac 1560
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cccttttttg ataagagtct tctattccca accaagatca ttatatgatt agctcttgtg 1740
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aaaatgtatt taatttaata atgtaacaca acaagtttgg atgtgtttaa ctttataaat 1860
aatcacccca gaggaatgaa gttcaaaact tgtgaataac c 1901

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<210> 70
<211> 127
<212> PRT
<213> human organism

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<400> 70

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Met Asp Ala Ala Cys Val Gly Arg Pro Ser Pro Lys Gly Pro Gly Ser
1           5           10           15

```

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Leu Asn Thr Arg Glu Leu Ile Gln Glu Arg Ser Pro Met Asn Ala Leu
20           25           30

```

Asn Val Thr Lys His Ser Ala Gly Asn His Ser Ser Met His Ile Arg
 35 40 45

Lys Leu Thr Gln Glu Arg Ser His Ile Tyr Ala Val Ile Val Glu Lys
 50 55 60

Ala Ser Phe Arg Arg Glu Ile Ser Leu Tyr Ile Ser Glu Phe Ile Leu
 65 70 75 80

Glu Lys Asn Pro Ile Tyr Ala Met Asn Val Glu Lys Ala Ser Ser Lys
 85 90 95

Arg Ala Thr Ser Leu Phe Ile Asp Val Leu Thr Leu Glu Arg Asn Pro
 100 105 110

Met Asn Ala Met Asn Val Gly Lys Ala Ser Ala Arg Arg His Val
 115 120 125

<210> 71
 <211> 1005
 <212> DNA
 <213> human organism

<400> 71
 aatttcggca cgggggggag gcacagtgag tccactgggg cacggcagcg tctaagccac 60
 aagccgactg acataagcca ggtcctaacg gagcctatgt gtaagtccac tactggtgca 120
 aggttgacaca cttctaagaa gagcggcgtg gggggctcgg cgaccttcgc ttcagtcgct 180
 cccccgtgca gtcccctgtg cccaagacac agcctgatgc ttgtgctccg gtgggaggac 240
 ttggaggcgg cggaactgc aattggtggc tttgaagggc ggcgagcggg aacagctctt 300
 gaggagttag actgcaggag atgtgggccc tgccaaagag atggatgaga ctgttgctga 360
 gttcatcaag aggaccatct tgaaaatccc catgaatgaa ctgacaacaa tcctgaaggc 420
 ctgggatttt ttgtctgaaa atcaactgca gactgtaaat ttccgacaga gaaaggaatc 480
 tgtagttcag cacttgatcc atctgtgtga ggaaaagcgt gcaagtatca gtgatgctgc 540
 cctgttagac atcatattata tgcaatttca tcagcaccag aaagtttggg atgtttttca 600
 gatgagtaaa ggaccagggtg aagatgttga cctttttgat atgaaacaat ttaaaaattc 660
 gttcaagaaa attcttcaga gagcattaaa aaatgtgaca gtcagcttca gagaaactga 720
 ggagaatgca gtctggattc gaattgcctg gggaacacag tacacaaagc caaaccagta 780

caaacctacc tacgtggtgt actactccca gactccgtac gccttcacgt cctcctccat 840
 gctgaggcgc aatacaccgc ttctgggtca ggagttagaa gctactggga aaatctacct 900
 ccgacaagag gagatcattt tagatattac cgaaatgaag aaagcttgca attagtgaac 960
 atgaaaggaa aataaaaaatt cctcacagtc aaaaaaaaaa aaaaa 1005

<210> 72
 <211> 204
 <212> PRT
 <213> human organism

<400> 72

Met Asp Glu Thr Val Ala Glu Phe Ile Lys Arg Thr Ile Leu Lys Ile
 1 5 10 15

Pro Met Asn Glu Leu Thr Thr Ile Leu Lys Ala Trp Asp Phe Leu Ser
 20 25 30

Glu Asn Gln Leu Gln Thr Val Asn Phe Arg Gln Arg Lys Glu Ser Val
 35 40 45

Val Gln His Leu Ile His Leu Cys Glu Glu Lys Arg Ala Ser Ile Ser
 50 55 60

Asp Ala Ala Leu Leu Asp Ile Ile Tyr Met Gln Phe His Gln His Gln
 65 70 75 80

Lys Val Trp Asp Val Phe Gln Met Ser Lys Gly Pro Gly Glu Asp Val
 85 90 95

Asp Leu Phe Asp Met Lys Gln Phe Lys Asn Ser Phe Lys Lys Ile Leu
 100 105 110

Gln Arg Ala Leu Lys Asn Val Thr Val Ser Phe Arg Glu Thr Glu Glu
 115 120 125

Asn Ala Val Trp Ile Arg Ile Ala Trp Gly Thr Gln Tyr Thr Lys Pro
 130 135 140

Asn Gln Tyr Lys Pro Thr Tyr Val Val Tyr Tyr Ser Gln Thr Pro Tyr
 145 150 155 160

Ala Phe Thr Ser Ser Ser Met Leu Arg Arg Asn Thr Pro Leu Leu Gly

165

170

175

Gln Glu Leu Glu Ala Thr Gly Lys Ile Tyr Leu Arg Gln Glu Glu Ile
 180 185 190

Ile Leu Asp Ile Thr Glu Met Lys Lys Ala Cys Asn
 195 200

<210> 73
 <211> 1125
 <212> DNA
 <213> human organism

<400> 73
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 gtcattgtctt tgggtcgatg tcaagataac acaactacaa ctactaagtc tgaagatggg 720
 cattatgcaa gaacagatta tgcagagaat gctaacaaat tagaagaaa tgccagagaa 780
 caccacatac cttgtccgga acattacaat ggcttctgca tgcattggga gtgtgagcat 840
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 gaaaaaaagg actacagtgt tctatacgtt gttcccggtc ctgtacgatt tcagtatgtc 960
 ttaatcgcag ctgtgattgg aacaattcag attgctgtca tctgtgtggt ggtcctctgc 1020
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 tacagttcag acaatacaac aagagcgtcc acgaggttaa tctga 1125

<210> 74

<211> 374
<212> PRT
<213> human organism

<400> 74

Met Val Leu Trp Glu Ser Pro Arg Gln Cys Ser Ser Trp Thr Leu Cys
1 5 10 15

Glu Gly Phe Cys Trp Leu Leu Leu Leu Pro Val Met Leu Leu Ile Val
20 25 30

Ala Arg Pro Val Lys Leu Ala Ala Phe Pro Thr Ser Leu Ser Asp Cys
35 40 45

Gln Thr Pro Thr Gly Trp Asn Cys Ser Gly Tyr Asp Asp Arg Glu Asn
50 55 60

Asp Leu Phe Leu Cys Asp Thr Asn Thr Cys Lys Phe Asp Gly Glu Cys
65 70 75 80

Leu Arg Ile Gly Asp Thr Val Thr Cys Val Cys Gln Phe Lys Cys Asn
85 90 95

Asn Asp Tyr Val Pro Val Cys Gly Ser Asn Gly Glu Ser Tyr Gln Asn
100 105 110

Glu Cys Tyr Leu Arg Gln Ala Ala Cys Lys Gln Gln Ser Glu Ile Leu
115 120 125

Val Val Ser Glu Gly Ser Cys Ala Thr Asp Ala Gly Ser Gly Ser Gly
130 135 140

Asp Gly Val His Glu Gly Ser Gly Glu Thr Ser Gln Lys Glu Thr Ser
145 150 155 160

Thr Cys Asp Ile Cys Gln Phe Gly Ala Glu Cys Asp Glu Asp Ala Glu
165 170 175

Asp Val Trp Cys Val Cys Asn Ile Asp Cys Ser Gln Thr Asn Phe Asn
180 185 190

Pro Leu Cys Ala Ser Asp Gly Lys Ser Tyr Asp Asn Ala Cys Gln Ile
195 200 205

Lys Glu Ala Ser Cys Gln Lys Gln Glu Lys Ile Glu Val Met Ser Leu
210 215 220

Gly Arg Cys Gln Asp Asn Thr Thr Thr Thr Thr Lys Ser Glu Asp Gly
225 230 235 240

His Tyr Ala Arg Thr Asp Tyr Ala Glu Asn Ala Asn Lys Leu Glu Glu
245 250 255

Ser Ala Arg Glu His His Ile Pro Cys Pro Glu His Tyr Asn Gly Phe
260 265 270

Cys Met His Gly Lys Cys Glu His Ser Ile Asn Met Gln Glu Pro Ser
275 280 285

Cys Arg Cys Asp Ala Gly Tyr Thr Gly Gln His Cys Glu Lys Lys Asp
290 295 300

Tyr Ser Val Leu Tyr Val Val Pro Gly Pro Val Arg Phe Gln Tyr Val
305 310 315 320

Leu Ile Ala Ala Val Ile Gly Thr Ile Gln Ile Ala Val Ile Cys Val
325 330 335

Val Val Leu Cys Ile Thr Arg Lys Cys Pro Arg Ser Asn Arg Ile His
340 345 350

Arg Gln Lys Gln Asn Thr Gly His Tyr Ser Ser Asp Asn Thr Thr Arg
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Ala Ser Thr Arg Leu Ile
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<223> Xaa can be any naturally occurring amino acid

<400> 76

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Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
35 40 45

Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Glu Pro Arg
50 55 60

Ala Ala Ala Ser Val Gln Ala Val Gly Cys Ala Ala Gly Ala Leu Pro
65 70 75 80

Pro Arg Cys His Gly Glu Thr Pro Ala Gly Pro Arg Asp Ser Ala Ala
85 90 95

Gly Lys Ser Lys Ala Tyr Leu Cys Gln Ala Glu Trp Ile Trp Pro Val
100 105 110

Gln Glu Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115 120 125

Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
130 135 140

Ala Pro Leu Asn Leu Val Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
145 150 155 160

Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165 170 175

Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180 185 190

Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
195 200 205

Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210 215 220

Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
225 230 235 240

Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245 250 255

Asn Gln Met Ser Thr Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
260 265 270

Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
275 280 285

Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
290 295 300

His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
305 310 315 320

Gln Asp Val Ser Pro Arg Leu Ala Pro Leu Leu Leu Asn Thr Pro Ala
325 330 335

Ile Pro Ser Ser Lys Gly Asp Pro Phe Ile Gly Glu His Thr Glu Glu
340 345 350

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Pro Val Val Val Thr Phe Trp Tyr Arg Ala Pro Glu Leu Leu Leu Gly
65 70 75 80

Ala Arg His Tyr Thr Lys Ala Ile Asp Ile Trp Ala Ile Gly Cys Ile
85 90 95

Phe Ala Glu Leu Leu Thr Ser Glu Pro Ile Phe His Cys Arg Gln Glu
100 105 110

Asp Ile Lys Thr Ser Asn Pro Phe His His Asp Gln Leu Asp Arg Ile
115 120 125

Phe Ser Val Met Gly Phe Pro Ala Asp Lys Asp Trp Glu Asp Ile Arg
130 135 140

Lys Met Pro Glu Tyr Pro Thr Leu Gln Lys Asp Phe Arg Arg Thr Thr
145 150 155 160

Tyr Ala Asn Ser Ser Leu Ile Lys Tyr Met Glu Lys His Lys Val Lys
165 170 175

Pro Asp Ser Lys Val Phe Leu Leu Leu Gln Lys Leu Leu Thr Met Asp
180 185 190

Pro Thr Lys Arg Ile Thr Ser Glu Gln Ala Leu Gln Asp Pro Tyr Phe
195 200 205

Gln Glu Asp Pro Leu Pro Thr Leu Asp Val Phe Ala Gly Cys Gln Ile
210 215 220

Pro Tyr Pro Lys Arg Glu Phe Leu Asn Glu Asp Asp Pro Glu Glu Lys
225 230 235 240

Gly Asp Lys Asn Gln Gln Gln Gln Gln Asn Gln His Gln Gln Pro Thr
245 250 255

Ala Pro Pro Gln Gln Ala Ala Ala Pro Pro Gln Ala Pro Pro Pro Gln
260 265 270

Gln Asn Ser Thr Gln Thr Asn Gly Thr Ala Gly Gly Ala Gly Ala Gly
275 280 285

Val Gly Gly Thr Gly Ala Gly Leu Gln His Ser Gln Asp Ser Ser Leu
 290 295 300

Asn Gln Val Pro Pro Asn Lys Lys Pro Arg Leu Gly Pro Ser Gly Ala
 305 310 315 320

Asn Ser Gly Gly Pro Val Met Pro Ser Asp Tyr Gln His Ser Ser Ser
 325 330 335

Arg Leu Asn Tyr Gln Ser Ser Val Gln Gly Ser Ser Gln Ser Gln Ser
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Thr Leu Gly Tyr Ser Ser Ser Ser Gln Gln Ser Ser Gln Tyr His Pro
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Ser His Gln Ala His Arg Tyr
 370 375

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 <211> 2190
 <212> DNA
 <213> human organism

<400> 79
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 <212> PRT
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 <400> 80

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Pro Ser Pro Thr Ile Cys Gly Ser Asn Tyr Pro Leu Ser Ile Ala Phe
35 40 45

Ile Val Val Asn Glu Phe Cys Glu Arg Phe Ser Tyr Tyr Gly Met Lys
50 55 60

Ala Val Leu Ile Leu Tyr Phe Leu Tyr Phe Leu His Trp Asn Glu Asp
65 70 75 80

Thr Ser Thr Ser Ile Tyr His Ala Phe Ser Ser Leu Cys Tyr Phe Thr
85 90 95

Pro Ile Leu Gly Ala Ala Ile Ala Asp Ser Trp Leu Gly Lys Phe Lys
100 105 110

Thr Ile Ile Tyr Leu Ser Leu Val Tyr Val Leu Gly His Val Ile Lys
115 120 125

Ser Leu Gly Ala Leu Pro Ile Leu Gly Gly Gln Val Val His Thr Val
130 135 140

Leu Ser Leu Ile Gly Leu Ser Leu Ile Ala Leu Gly Thr Gly Gly Ile
145 150 155 160

Lys Pro Cys Val Ala Ala Phe Gly Gly Asp Gln Phe Glu Glu Lys His
165 170 175

Ala Glu Glu Arg Thr Arg Tyr Phe Ser Val Phe Tyr Leu Ser Ile Asn
180 185 190

Ala Gly Ser Leu Ile Ser Thr Phe Ile Thr Pro Met Leu Arg Gly Asp
195 200 205

Val Gln Cys Phe Gly Glu Asp Cys Tyr Ala Leu Ala Phe Gly Val Pro
210 215 220

Gly Leu Leu Met Val Ile Ala Leu Val Val Phe Ala Met Gly Ser Lys
225 230 235 240

Ile Tyr Asn Lys Pro Pro Pro Glu Gly Asn Ile Val Ala Gln Val Phe
245 250 255

Lys Cys Ile Trp Phe Ala Ile Ser Asn Arg Phe Lys Asn Arg Ser Gly
260 265 270

Asp Ile Pro Lys Arg Gln His Trp Leu Asp Trp Ala Ala Glu Lys Tyr
275 280 285

Pro Lys Gln Leu Ile Met Asp Val Lys Ala Leu Thr Arg Val Leu Phe
290 295 300

Leu Tyr Ile Pro Leu Pro Met Phe Trp Ala Leu Leu Asp Gln Gln Gly
305 310 315 320

Ser Arg Trp Thr Leu Gln Ala Ile Arg Met Asn Arg Asn Leu Gly Phe
325 330 335

Phe Val Leu Gln Pro Asp Gln Met Gln Val Leu Asn Pro Phe Leu Val
340 345 350

Leu Ile Phe Ile Pro Leu Phe Asp Phe Val Ile Tyr Arg Leu Val Ser
355 360 365

Lys Cys Gly Ile Asn Phe Ser Ser Leu Arg Lys Met Ala Val Gly Met
370 375 380

Ile Leu Ala Cys Leu Ala Phe Ala Val Ala Ala Ala Val Glu Ile Lys
385 390 395 400

Ile Asn Glu Met Ala Pro Ala Gln Ser Gly Pro Gln Glu Val Phe Leu
405 410 415

Gln Val Leu Asn Leu Ala Asp Asp Glu Val Lys Val Thr Val Val Gly
420 425 430

Asn Glu Asn Asn Ser Leu Leu Ile Glu Ser Ile Lys Ser Phe Gln Lys
435 440 445

Thr Pro His Tyr Ser Lys Leu His Leu Lys Thr Lys Ser Gln Asp Phe
450 455 460

His Phe His Leu Lys Tyr His Asn Leu Ser Leu Tyr Thr Glu His Ser
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Val Gln Glu Lys Asn Trp Tyr Ser Leu Val Ile Arg Glu Asp Gly Asn
485 490 495

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500 505 510

Gly Met Thr Thr Val Arg Phe Val Asn Thr Leu His Lys Asp Val Asn
515 520 525

Ile Ser Leu Ser Thr Asp Thr Ser Leu Asn Val Gly Glu Asp Tyr Gly
530 535 540

Val Ser Ala Tyr Arg Thr Val Gln Arg Gly Glu Tyr Pro Ala Val His
545 550 555 560

Cys Arg Thr Glu Asp Lys Asn Phe Ser Leu Asn Leu Gly Leu Leu Asp
565 570 575

Phe Gly Ala Ala Tyr Leu Phe Val Ile Thr Asn Asn Thr Asn Gln Gly
580 585 590

Leu Gln Ala Trp Lys Ile Glu Asp Ile Pro Ala Asn Lys Met Ser Ile
595 600 605

Ala Trp Gln Leu Pro Gln Tyr Ala Leu Val Thr Ala Gly Glu Val Met
610 615 620

Phe Ser Val Thr Gly Leu Glu Phe Ser Tyr Ser Gln Ala Pro Ser Ser
625 630 635 640

Met Lys Ser Val Leu Gln Ala Ala Trp Leu Leu Thr Ile Ala Val Gly
645 650 655

Asn Ile Ile Val Leu Val Val Ala Gln Phe Ser Gly Leu Val Gln Trp
660 665 670

Ala Glu Phe Ile Leu Phe Ser Cys Leu Leu Leu Val Ile Cys Leu Ile
675 680 685

Phe Ser Ile Met Gly Tyr Tyr Tyr Val Pro Val Lys Thr Glu Asp Met

690

695

700

Arg Gly Pro Ala Asp Lys His Ile Pro His Ile Gln Gly Asn Met Ile
 705 710 715 720

Lys Leu Glu Thr Lys Lys Thr Lys Leu
 725

<210> 81

<211> 1221

<212> DNA

<213> human organism

<400> 81

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1221

<210> 82
<211> 406
<212> PRT
<213> human organism

<400> 82

Met Asp Gly Ser His Ser Ala Ala Leu Lys Leu Gln Gln Leu Pro Pro
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Thr Ser Ser Ser Ser Ala Val Ser Glu Ala Ser Phe Ser Tyr Lys Glu
20 25 30

Asn Leu Ile Gly Ala Leu Leu Ala Ile Phe Gly His Leu Val Val Ser
35 40 45

Ile Ala Leu Asn Leu Gln Lys Tyr Cys His Ile Arg Leu Ala Gly Ser
50 55 60

Lys Asp Pro Arg Ala Tyr Phe Lys Thr Lys Thr Trp Trp Leu Gly Leu
65 70 75 80

Phe Leu Met Leu Leu Gly Glu Leu Gly Val Phe Ala Ser Tyr Ala Phe
85 90 95

Ala Pro Leu Ser Leu Ile Val Pro Leu Ser Ala Val Ser Val Ile Ala
100 105 110

Ser Ala Ile Ile Gly Ile Ile Phe Ile Lys Glu Lys Trp Lys Pro Lys
115 120 125

Asp Phe Leu Arg Arg Tyr Val Leu Ser Phe Val Gly Cys Gly Leu Ala
130 135 140

Val Val Gly Thr Tyr Leu Leu Val Thr Phe Ala Pro Asn Ser His Glu
145 150 155 160

Lys Met Thr Gly Glu Asn Val Thr Arg His Leu Val Ser Trp Pro Phe
165 170 175

Leu Leu Tyr Met Leu Val Glu Ile Ile Leu Phe Cys Leu Leu Leu Tyr
180 185 190

Phe Tyr Lys Glu Lys Asn Ala Asn Asn Ile Val Val Ile Leu Leu Leu
195 200 205

Val Ala Leu Leu Gly Ser Met Thr Val Val Thr Val Lys Ala Val Ala
210 215 220

Gly Met Leu Val Leu Ser Ile Gln Gly Asn Leu Gln Leu Asp Tyr Pro
225 230 235 240

Ile Phe Tyr Val Met Phe Val Cys Met Val Ala Thr Ala Val Tyr Gln
245 250 255

Ala Ala Phe Leu Ser Gln Ala Ser Gln Met Tyr Asp Ser Ser Leu Ile
260 265 270

Ala Ser Val Gly Tyr Ile Leu Ser Thr Thr Ile Ala Ile Thr Ala Gly
275 280 285

Ala Ile Phe Tyr Leu Asp Phe Ile Gly Glu Asp Val Leu His Ile Cys
290 295 300

Met Phe Ala Leu Gly Cys Leu Ile Ala Phe Leu Gly Val Phe Leu Ile
305 310 315 320

Thr Arg Asn Arg Lys Lys Pro Ile Pro Phe Glu Pro Tyr Ile Ser Met
325 330 335

Asp Ala Met Pro Gly Met Gln Asn Met His Asp Lys Gly Met Thr Val
340 345 350

Gln Pro Glu Leu Lys Ala Ser Phe Ser Tyr Gly Ala Leu Glu Asn Asn
355 360 365

Asp Asn Ile Ser Glu Ile Tyr Ala Pro Ala Thr Leu Pro Val Met Gln
370 375 380

Glu Glu His Gly Ser Arg Ser Ala Ser Gly Val Pro Tyr Arg Val Leu
385 390 395 400

Glu His Thr Lys Lys Glu
405

<210> 83
 <211> 1316
 <212> DNA
 <213> human organism

<400> 83
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<210> 84
 <211> 117
 <212> PRT
 <213> human organism

<400> 84

Met Thr Val Leu Glu Ala Val Leu Glu Ile Gln Ala Ile Thr Gly Ser
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Arg Leu Leu Ser Met Val Pro Gly Pro Ala Arg Pro Pro Gly Ser Cys
20 25 30

Trp Asp Pro Thr Gln Cys Thr Arg Thr Trp Leu Leu Ser His Thr Pro
35 40 45

Arg Arg Arg Trp Ile Ser Gly Leu Pro Arg Ala Ser Cys Arg Leu Gly
50 55 60

Glu Glu Pro Pro Pro Leu Pro Tyr Cys Asp Gln Ala Tyr Gly Glu Glu
65 70 75 80

Leu Ser Ile Arg His Arg Glu Thr Trp Ala Trp Leu Ser Arg Thr Asp
85 90 95

Thr Ala Trp Pro Gly Ala Pro Gly Val Lys Gln Ala Arg Ile Leu Gly
100 105 110

Glu Leu Leu Leu Val
115

<210> 85
<211> 3442
<212> DNA
<213> human organism

<400> 85
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aaataaaaatt	ggatatttga	ga				3442

<210> 86
 <211> 512
 <212> PRT
 <213> human organism

<400> 86

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Pro	Pro	Ala	Leu	Pro	Arg	Pro	Ile	Arg	Asn	Leu	Glu	Val	Lys	Phe	Thr
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Lys Ile Phe Ile Asn Asn Glu Trp His Glu Ser Lys Ser Gly Lys Lys
35 40 45

Phe Ala Thr Cys Asn Pro Ser Thr Arg Glu Gln Ile Cys Glu Val Glu
50 55 60

Glu Gly Asp Lys Pro Asp Val Asp Lys Ala Val Glu Ala Ala Gln Val
65 70 75 80

Ala Phe Gln Arg Gly Ser Pro Trp Arg Arg Leu Asp Ala Leu Ser Arg
85 90 95

Gly Arg Leu Leu His Gln Leu Ala Asp Leu Val Glu Arg Asp Arg Ala
100 105 110

Thr Leu Ala Ala Leu Glu Thr Met Asp Thr Gly Lys Pro Phe Leu His
115 120 125

Ala Phe Phe Ile Asp Leu Glu Gly Cys Ile Arg Thr Leu Arg Tyr Phe
130 135 140

Ala Gly Trp Ala Asp Lys Ile Gln Gly Lys Thr Ile Pro Thr Asp Asp
145 150 155 160

Asn Val Val Cys Phe Thr Arg His Glu Pro Ile Gly Val Cys Gly Ala
165 170 175

Ile Thr Pro Trp Asn Phe Pro Leu Leu Met Leu Val Trp Lys Leu Ala
180 185 190

Pro Ala Leu Cys Cys Gly Asn Thr Met Val Leu Lys Pro Ala Glu Gln
195 200 205

Thr Pro Leu Thr Ala Leu Tyr Leu Gly Ser Leu Ile Lys Glu Ala Gly
210 215 220

Phe Pro Pro Gly Val Val Asn Ile Val Pro Gly Phe Gly Pro Thr Val
225 230 235 240

Gly Ala Ala Ile Ser Ser His Pro Gln Ile Asn Lys Ile Ala Phe Thr
245 250 255

Gly Ser Thr Glu Val Gly Lys Leu Val Lys Glu Ala Ala Ser Arg Ser

260

265

270

Asn Leu Lys Arg Val Thr Leu Glu Leu Gly Gly Lys Asn Pro Cys Ile
 275 280 285

Val Cys Ala Asp Ala Asp Leu Asp Leu Ala Val Glu Cys Ala His Gln
 290 295 300

Gly Val Phe Phe Asn Gln Gly Gln Cys Cys Thr Ala Ala Ser Arg Val
 305 310 315 320

Phe Val Glu Glu Gln Val Tyr Ser Glu Phe Val Arg Arg Ser Val Glu
 325 330 335

Tyr Ala Lys Lys Arg Pro Val Gly Asp Pro Phe Asp Val Lys Thr Glu
 340 345 350

Gln Gly Pro Gln Ile Asp Gln Lys Gln Phe Asp Lys Ile Leu Glu Leu
 355 360 365

Ile Glu Ser Gly Lys Lys Glu Gly Ala Lys Leu Glu Cys Gly Gly Ser
 370 375 380

Ala Met Glu Asp Lys Gly Leu Phe Ile Lys Pro Thr Val Phe Ser Glu
 385 390 395 400

Val Thr Asp Asn Met Arg Ile Ala Lys Glu Glu Ile Phe Gly Pro Val
 405 410 415

Gln Pro Ile Leu Lys Phe Lys Ser Ile Glu Glu Val Ile Lys Arg Ala
 420 425 430

Asn Ser Thr Asp Tyr Gly Leu Thr Ala Ala Val Phe Thr Lys Asn Leu
 435 440 445

Asp Lys Ala Leu Lys Leu Ala Ser Ala Leu Glu Ser Gly Thr Val Trp
 450 455 460

Ile Asn Cys Tyr Asn Ala Leu Tyr Ala Gln Ala Pro Phe Gly Gly Phe
 465 470 475 480

Lys Met Ser Gly Asn Gly Arg Glu Leu Gly Glu Tyr Ala Leu Ala Glu
 485 490 495

Tyr	Thr	Glu	Val	Lys	Thr	Val	Thr	Ile	Lys	Leu	Gly	Asp	Lys	Asn	Pro
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<210> 87
 <211> 2252
 <212> DNA
 <213> human organism

<400> 87
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 tggaaaaaaa aaaaagaaaa aaaaaaaaaa aa 2252

<210> 88
 <211> 359
 <212> PRT
 <213> human organism

<400> 88

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Ala Gln Leu Leu Thr Asp Ala Asn Ser Trp Trp Ser Leu Ala Leu Asn
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Pro Val Gln Arg Pro Glu Met Phe Ile Ile Gly Ala Gln Pro Val Cys
 35 40 45

Ser Gln Leu Pro Gly Leu Ser Pro Gly Gln Arg Lys Leu Cys Gln Leu
 50 55 60

Tyr Gln Glu His Met Ala Tyr Ile Gly Glu Gly Ala Lys Thr Gly Ile
 65 70 75 80

Lys Glu Cys Gln His Gln Phe Arg Gln Arg Arg Trp Asn Cys Ser Thr
85 90 95

Ala Asp Asn Ala Ser Val Phe Gly Arg Val Met Gln Ile Gly Ser Arg
100 105 110

Glu Thr Ala Phe Thr His Ala Val Ser Ala Ala Gly Val Val Asn Ala
115 120 125

Ile Ser Arg Ala Cys Arg Glu Gly Glu Leu Ser Thr Cys Gly Cys Ser
130 135 140

Arg Thr Ala Arg Pro Lys Asp Leu Pro Arg Asp Trp Leu Trp Gly Gly
145 150 155 160

Cys Gly Asp Asn Val Glu Tyr Gly Tyr Arg Phe Ala Lys Glu Phe Val
165 170 175

Asp Ala Arg Glu Arg Glu Lys Asn Phe Ala Lys Gly Ser Glu Glu Gln
180 185 190

Gly Arg Val Leu Met Asn Leu Gln Asn Asn Glu Ala Gly Arg Arg Ala
195 200 205

Val Tyr Lys Met Ala Asp Val Ala Cys Lys Cys His Gly Val Ser Gly
210 215 220

Ser Cys Ser Leu Lys Thr Cys Trp Leu Gln Leu Ala Glu Phe Arg Lys
225 230 235 240

Val Gly Asp Arg Leu Lys Glu Lys Tyr Asp Ser Ala Ala Ala Met Arg
245 250 255

Val Thr Arg Lys Gly Arg Leu Glu Leu Val Asn Ser Arg Phe Thr Gln
260 265 270

Pro Thr Pro Glu Asp Leu Val Tyr Val Asp Pro Ser Pro Asp Tyr Cys
275 280 285

Leu Arg Asn Glu Ser Thr Gly Ser Leu Gly Thr Gln Gly Arg Leu Cys
290 295 300

Asn Lys Thr Ser Glu Gly Met Asp Gly Cys Glu Leu Met Cys Cys Gly
 305 310 315 320

Arg Gly Tyr Asn Gln Phe Lys Ser Val Gln Val Glu Arg Cys His Cys
 325 330 335

Lys Phe His Trp Cys Cys Phe Val Arg Cys Lys Lys Cys Thr Glu Ile
 340 345 350

Val Asp Gln Tyr Ile Cys Lys
 355

<210> 89
 <211> 794
 <212> DNA
 <213> human organism

<400> 89
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 ggtatggtca ccataataat gaatgactat ccaaaattca agtatgctct tttggctgta 600
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 gattgaaatg aattctgttg aaaaagagaa aaactaatat atttgagatg ttccattttc 720
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 aaaaaaaaaa aaaa 794

<210> 90
 <211> 192
 <212> PRT
 <213> human organism

<400> 90

Met Val Arg Ala Gly Ala Val Gly Ala His Leu Pro Ala Ser Gly Leu
1 5 10 15

Asp Ile Phe Gly Asp Leu Lys Lys Met Asn Lys Arg Gln Leu Tyr Tyr
20 25 30

Gln Val Leu Asn Phe Ala Met Ile Val Ser Ser Ala Leu Met Ile Trp
35 40 45

Lys Gly Leu Ile Val Leu Thr Gly Ser Glu Ser Pro Ile Val Val Val
50 55 60

Leu Ser Gly Ser Met Glu Pro Ala Phe His Arg Gly Asp Leu Leu Phe
65 70 75 80

Leu Thr Asn Phe Arg Glu Asp Pro Ile Arg Ala Gly Glu Ile Val Val
85 90 95

Phe Lys Val Glu Gly Arg Asp Ile Pro Ile Val His Arg Val Ile Lys
100 105 110

Val His Glu Lys Asp Asn Gly Asp Ile Lys Phe Leu Thr Lys Gly Asp
115 120 125

Asn Asn Glu Val Asp Asp Arg Gly Leu Tyr Lys Glu Gly Gln Asn Trp
130 135 140

Leu Glu Lys Lys Asp Val Val Gly Arg Ala Arg Gly Phe Leu Pro Tyr
145 150 155 160

Val Gly Met Val Thr Ile Ile Met Asn Asp Tyr Pro Lys Phe Lys Tyr
165 170 175

Ala Leu Leu Ala Val Met Gly Ala Tyr Val Leu Leu Lys Arg Glu Ser
180 185 190

<210> 91

<211> 2108

<212> DNA

<213> human organism

<400> 91

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 aaaaaaaaa 2108

<210> 92
 <211> 59
 <212> PRT
 <213> human organism

<400> 92

Met Gln Cys Gln Leu Phe Arg Thr Glu Thr Ser Lys Ala Val Ser Glu
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Leu Asn Tyr Asp Tyr Ile Cys Ile Lys Ala Gly Thr Gly Arg Pro Gln
 20 25 30

Gly Thr Pro Thr Ile Gly Leu Val Leu Leu Val Arg Trp Ala Ile Ile
 35 40 45

Tyr Glu Thr Glu Leu Gln Ser Gln Pro Ile Thr
 50 55

<210> 93
 <211> 1991
 <212> DNA
 <213> human organism

<400> 93

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aaaaaaaaa a	1991

<211> 593
<212> PRT
<213> human organism

<400> 94

Met Gly Ser Gly Ser Ser Ser Tyr Arg Pro Lys Ala Ile Tyr Leu Asp
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Ile Asp Gly Arg Ile Gln Lys Val Ile Phe Ser Lys Tyr Cys Asn Ser
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Ser Asp Ile Met Asp Leu Phe Cys Ile Ala Thr Gly Leu Pro Arg Asn
35 40 45

Thr Thr Ile Ser Leu Leu Thr Thr Asp Asp Ala Met Val Ser Ile Asp
50 55 60

Pro Thr Met Pro Ala Asn Ser Glu Arg Thr Pro Tyr Lys Val Arg Pro
65 70 75 80

Val Ala Ile Lys Gln Leu Ser Ala Gly Val Glu Asp Lys Arg Thr Thr
85 90 95

Ser Arg Gly Gln Ser Ala Glu Arg Pro Leu Arg Asp Arg Arg Val Val
100 105 110

Gly Leu Glu Gln Pro Arg Arg Glu Gly Ala Phe Glu Ser Gly Gln Val
115 120 125

Glu Pro Arg Pro Arg Glu Pro Gln Gly Cys Tyr Gln Glu Gly Gln Arg
130 135 140

Ile Pro Pro Glu Arg Glu Glu Leu Ile Gln Ser Val Leu Ala Gln Val
145 150 155 160

Ala Glu Gln Phe Ser Arg Ala Phe Lys Ile Asn Glu Leu Lys Ala Glu
165 170 175

Val Ala Asn His Leu Ala Val Leu Glu Lys Arg Val Glu Leu Glu Gly
180 185 190

Leu Lys Val Val Glu Ile Glu Lys Cys Lys Ser Asp Ile Lys Lys Met
195 200 205

Arg Glu Glu Leu Ala Ala Arg Ser Ser Arg Thr Asn Cys Pro Cys Lys
210 215 220

Tyr Ser Phe Leu Asp Asn His Lys Lys Leu Thr Pro Arg Arg Asp Val
225 230 235 240

Pro Thr Tyr Pro Lys Tyr Leu Leu Ser Pro Glu Thr Ile Glu Ala Leu
245 250 255

Arg Lys Pro Thr Phe Asp Val Trp Leu Trp Glu Pro Asn Glu Met Leu
260 265 270

Ser Cys Leu Glu His Met Tyr His Asp Leu Gly Leu Val Arg Asp Phe
275 280 285

Ser Ile Asn Pro Val Thr Leu Arg Arg Trp Leu Phe Cys Val His Asp
290 295 300

Asn Tyr Arg Asn Asn Pro Phe His Asn Phe Arg His Cys Phe Cys Val
305 310 315 320

Ala Gln Met Met Tyr Ser Met Val Trp Leu Cys Ser Leu Gln Glu Lys
325 330 335

Phe Ser Gln Thr Asp Ile Leu Ile Leu Met Thr Ala Ala Ile Cys His
340 345 350

Asp Leu Asp His Pro Gly Tyr Asn Asn Thr Tyr Gln Ile Asn Ala Arg
355 360 365

Thr Glu Leu Ala Val Arg Tyr Asn Asp Ile Ser Pro Leu Glu Asn His
370 375 380

His Cys Ala Val Ala Phe Gln Ile Leu Ala Glu Pro Glu Cys Asn Ile
385 390 395 400

Phe Ser Asn Ile Pro Pro Asp Gly Phe Lys Gln Ile Arg Gln Gly Met
405 410 415

Ile Thr Leu Ile Leu Ala Thr Asp Met Ala Arg His Ala Glu Ile Met
420 425 430

Asp Ser Phe Lys Glu Lys Met Glu Asn Phe Asp Tyr Ser Asn Glu Glu
 435 440 445

His Met Thr Leu Leu Lys Met Ile Leu Ile Lys Cys Cys Asp Ile Ser
 450 455 460

Asn Glu Val Arg Pro Met Glu Val Ala Glu Pro Trp Val Asp Cys Leu
 465 470 475 480

Leu Glu Glu Tyr Phe Met Gln Ser Asp Arg Glu Lys Ser Glu Gly Leu
 485 490 495

Pro Val Ala Pro Phe Met Asp Arg Asp Lys Val Thr Lys Ala Thr Ala
 500 505 510

Gln Ile Gly Phe Ile Lys Phe Val Leu Ile Pro Met Phe Glu Thr Val
 515 520 525

Thr Lys Leu Phe Pro Met Val Glu Glu Ile Met Leu Gln Pro Leu Trp
 530 535 540

Glu Ser Arg Asp Arg Tyr Glu Glu Leu Lys Arg Ile Asp Asp Ala Met
 545 550 555 560

Lys Glu Leu Gln Lys Lys Thr Asp Ser Leu Thr Ser Gly Ala Thr Glu
 565 570 575

Lys Ser Arg Glu Arg Ser Arg Asp Val Lys Asn Ser Glu Gly Asp Cys
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<210> 95

<211> 691

<212> DNA

<213> human organism

<400> 95

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<210> 96
 <211> 172
 <212> PRT
 <213> human organism

<400> 96

Met Leu Leu Leu Leu Thr Leu Ala Leu Leu Gly Gly Pro Thr Trp Ala
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Gly Lys Met Tyr Gly Pro Gly Gly Gly Lys Tyr Phe Ser Thr Thr Glu
 20 25 30

Asp Tyr Asp His Glu Ile Thr Gly Leu Arg Val Ser Val Gly Leu Leu
 35 40 45

Leu Val Lys Ser Val Gln Val Lys Leu Gly Asp Ser Trp Asp Val Lys
 50 55 60

Leu Gly Ala Leu Gly Gly Asn Thr Gln Glu Val Thr Leu Gln Pro Gly
 65 70 75 80

Glu Tyr Ile Thr Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly
 85 90 95

Met Val Met Tyr Thr Ser Lys Asp Arg Tyr Phe Tyr Phe Gly Lys Leu
 100 105 110

Asp Gly Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu
 115 120 125

Val Gly Ile Tyr Gly Gln Tyr Gln Leu Leu Gly Ile Lys Ser Ile Gly
 130 135 140

Phe Glu Trp Asn Tyr Pro Leu Glu Glu Pro Thr Thr Glu Pro Pro Val
 145 150 155 160

Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg
 165 170

<210> 97
 <211> 1059
 <212> DNA
 <213> human organism

<400> 97
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<210> 98
 <211> 287

<212> PRT
<213> human organism

<400> 98

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Ser Ala Val Asn Leu Gln Pro Gln Leu Ala Ser Val Thr Phe Ala Thr
20 25 30

Asn Asn Pro Thr Leu Thr Thr Val Ala Leu Glu Lys Pro Leu Cys Met
35 40 45

Phe Asp Ser Lys Glu Ala Leu Thr Gly Thr His Glu Val Tyr Leu Tyr
50 55 60

Val Leu Val Asp Ser Ala Ile Ser Arg Asn Ala Ser Val Gln Asp Ser
65 70 75 80

Thr Asn Thr Pro Leu Gly Ser Thr Phe Leu Gln Thr Glu Gly Gly Arg
85 90 95

Thr Gly Pro Tyr Lys Ala Val Ala Phe Asp Leu Ile Pro Cys Ser Asp
100 105 110

Leu Pro Ser Leu Asp Ala Ile Gly Asp Val Ser Lys Ala Ser Gln Ile
115 120 125

Leu Asn Ala Tyr Leu Val Arg Val Gly Ala Asn Gly Thr Cys Leu Trp
130 135 140

Asp Pro Asn Phe Gln Gly Leu Cys Asn Ala Pro Leu Ser Ala Ala Thr
145 150 155 160

Glu Tyr Arg Phe Lys Tyr Val Leu Val Asn Met Ser Thr Gly Leu Val
165 170 175

Glu Asp Gln Thr Leu Trp Ser Asp Pro Ile Arg Thr Asn Gln Leu Thr
180 185 190

Pro Tyr Ser Thr Ile Asp Thr Trp Pro Gly Arg Arg Ser Gly Gly Met
195 200 205

Ile Val Ile Thr Ser Ile Leu Gly Ser Leu Pro Phe Phe Leu Leu Val
 210 215 220

Gly Phe Ala Gly Ala Ile Ala Leu Ser Leu Val Asp Met Gly Ser Ser
 225 230 235 240

Asp Gly Glu Thr Thr His Asp Ser Gln Ile Thr Gln Glu Ala Val Pro
 245 250 255

Lys Ser Leu Gly Ala Ser Glu Ser Ser Tyr Thr Ser Val Asn Arg Gly
 260 265 270

Pro Pro Leu Asp Arg Ala Glu Val Tyr Ser Ser Lys Leu Gln Asp
 275 280 285

<210> 99
 <211> 1894
 <212> DNA
 <213> human organism

<400> 99
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cccggaatg gataataaag atactagaga actg 1894

<210> 100
<211> 335
<212> PRT
<213> human organism

<400> 100

Met Gly Ser Ala Ser Pro Gly Leu Ser Ser Val Ser Pro Ser His Leu
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Leu Leu Pro Pro Asp Thr Val Ser Arg Thr Gly Leu Glu Lys Ala Ala
20 25 30

Ala Gly Ala Val Gly Leu Glu Arg Arg Asp Trp Ser Pro Ser Pro Pro
35 40 45

Ala Thr Pro Glu Gln Gly Leu Ser Ala Phe Tyr Leu Ser Tyr Phe Asp
50 55 60

Met Leu Tyr Pro Glu Asp Ser Ser Trp Ala Ala Lys Ala Pro Gly Ala
65 70 75 80

Ser Ser Arg Glu Glu Pro Pro Glu Glu Pro Glu Gln Cys Pro Val Ile
85 90 95

Asp Ser Gln Ala Pro Ala Gly Ser Leu Asp Leu Val Pro Gly Gly Leu
100 105 110

Thr Leu Glu Glu His Ser Leu Glu Gln Val Gln Ser Met Val Val Gly
115 120 125

Glu Val Leu Lys Asp Ile Glu Thr Ala Cys Lys Leu Leu Asn Ile Thr
130 135 140

Ala Asp Pro Met Asp Trp Ser Pro Ser Asn Val Gln Lys Trp Leu Leu
145 150 155 160

Trp Thr Glu His Gln Tyr Arg Leu Pro Pro Met Gly Lys Ala Phe Gln
165 170 175

Glu Leu Ala Gly Lys Glu Leu Cys Ala Met Ser Glu Glu Gln Phe Arg
180 185 190

Gln Arg Ser Pro Leu Gly Gly Asp Val Leu His Ala His Leu Asp Ile
195 200 205

Trp Lys Ser Ala Ala Trp Met Lys Glu Arg Thr Ser Pro Gly Ala Ile
210 215 220

His Tyr Cys Ala Ser Thr Ser Glu Glu Ser Trp Thr Asp Ser Glu Val
225 230 235 240

Asp Ser Ser Cys Ser Gly Gln Pro Ile His Leu Trp Gln Phe Leu Lys
245 250 255

Glu Leu Leu Leu Lys Pro His Ser Tyr Gly Arg Phe Ile Arg Trp Leu
260 265 270

Asn Lys Glu Lys Gly Ile Phe Lys Ile Glu Asp Ser Ala Gln Val Ala
275 280 285

Arg Leu Trp Gly Ile Arg Lys Asn Arg Pro Ala Met Asn Tyr Asp Lys

290

295

300

Leu Ser Arg Ser Ile Arg Gln Tyr Tyr Lys Lys Gly Ile Ile Arg Lys
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Pro Asp Ile Ser Gln Arg Leu Val Tyr Gln Phe Val His Pro Ile
 325 330 335

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 <211> 2664
 <212> DNA
 <213> human organism

<400> 101
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<210> 102
 <211> 529
 <212> PRT
 <213> human organism

<400> 102

Met Gly Pro Ser Cys Pro Val Phe Leu Ser Phe Thr Lys Leu Ser Leu
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Trp Trp Leu Leu Leu Thr Pro Ala Gly Gly Glu Glu Ala Lys Arg Pro
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Pro Pro Arg Ala Pro Gly Asp Pro Leu Ser Ser Pro Ser Pro Thr Ala
35 40 45

Leu Pro Gln Gly Gly Ser His Thr Glu Thr Glu Asp Arg Leu Phe Lys
50 55 60

His Leu Phe Arg Gly Tyr Asn Arg Trp Ala Arg Pro Val Pro Asn Thr
65 70 75 80

Ser Asp Val Val Ile Val Arg Phe Gly Leu Ser Ile Ala Gln Leu Ile
85 90 95

Asp Val Asp Glu Lys Asn Gln Met Met Thr Thr Asn Val Trp Leu Lys
100 105 110

Gln Glu Trp Ser Asp Tyr Lys Leu Arg Trp Asn Pro Ala Asp Phe Gly
115 120 125

Asn Ile Thr Ser Leu Arg Val Pro Ser Glu Met Ile Trp Ile Pro Asp
130 135 140

Ile Val Leu Tyr Asn Asn Ala Asp Gly Glu Phe Ala Val Thr His Met
145 150 155 160

Thr Lys Ala His Leu Phe Ser Thr Gly Thr Val His Trp Val Pro Pro
165 170 175

Ala Ile Tyr Lys Ser Ser Cys Ser Ile Asp Val Thr Phe Phe Pro Phe
180 185 190

Asp Gln Gln Asn Cys Lys Met Lys Phe Gly Ser Trp Thr Tyr Asp Lys
195 200 205

Ala Lys Ile Asp Leu Glu Gln Met Glu Gln Thr Val Asp Leu Lys Asp
210 215 220

Tyr Trp Glu Ser Gly Glu Trp Ala Ile Val Asn Ala Thr Gly Thr Tyr
225 230 235 240

Asn Ser Lys Lys Tyr Asp Cys Cys Ala Glu Ile Tyr Pro Asp Val Thr
245 250 255

Tyr Ala Phe Val Ile Arg Arg Leu Pro Leu Phe Tyr Thr Ile Asn Leu
260 265 270

Ile Ile Pro Cys Leu Leu Ile Ser Cys Leu Thr Val Leu Val Phe Tyr
275 280 285

Leu Pro Ser Asp Cys Gly Glu Lys Ile Thr Leu Cys Ile Ser Val Leu
290 295 300

Leu Ser Leu Thr Val Phe Leu Leu Leu Ile Thr Glu Ile Ile Pro Ser
305 310 315 320

Thr Ser Leu Val Ile Pro Leu Ile Gly Glu Tyr Leu Leu Phe Thr Met
325 330 335

Ile Phe Val Thr Leu Ser Ile Val Ile Thr Val Phe Val Leu Asn Val
340 345 350

His His Arg Ser Pro Ser Thr His Thr Met Pro His Trp Val Arg Gly
355 360 365

Ala Leu Leu Gly Cys Val Pro Arg Trp Leu Leu Met Asn Arg Pro Pro
370 375 380

Pro Pro Val Glu Leu Cys His Pro Leu Arg Leu Lys Leu Ser Pro Ser
385 390 395 400

Tyr His Trp Leu Glu Ser Asn Val Asp Ala Glu Glu Arg Glu Val Val
405 410 415

Val Glu Glu Glu Asp Arg Trp Ala Cys Ala Gly His Val Ala Pro Ser
420 425 430

Val Gly Thr Leu Cys Ser His Gly His Leu His Ser Gly Ala Ser Gly
435 440 445

Pro Lys Ala Glu Ala Leu Leu Gln Glu Gly Glu Leu Leu Leu Ser Pro

450

455

460

His Met Gln Lys Ala Leu Glu Gly Val His Tyr Ile Ala Asp His Leu
 465 470 475 480

Arg Ser Glu Asp Ala Asp Ser Ser Val Lys Glu Asp Trp Lys Tyr Val
 485 490 495

Ala Met Val Ile Asp Arg Ile Phe Leu Trp Leu Phe Ile Ile Val Cys
 500 505 510

Phe Leu Gly Thr Ile Gly Leu Phe Leu Pro Pro Phe Leu Ala Gly Met
 515 520 525

Ile

<210> 103
 <211> 1181
 <212> DNA
 <213> human organism

<400> 103
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<210> 104
 <211> 268
 <212> PRT
 <213> human organism

<400> 104

Met Ala Gln Pro Leu Cys Pro Pro Leu Ser Glu Ser Trp Met Leu Ser
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Ala Ala Trp Gly Pro Thr Arg Arg Pro Pro Pro Ser Asp Lys Asp Cys
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Gly Arg Ser Leu Val Ser Ser Pro Asp Ser Trp Gly Ser Thr Pro Ala
 35 40 45

Asp Ser Pro Val Ala Ser Pro Ala Arg Pro Gly Thr Leu Arg Asp Pro
 50 55 60

Arg Ala Pro Ser Val Gly Arg Arg Gly Ala Arg Ser Ser Arg Leu Gly
 65 70 75 80

Ser Gly Gln Arg Gln Ser Ala Ser Glu Arg Glu Lys Leu Arg Met Arg
 85 90 95

Thr Leu Ala Arg Ala Leu His Glu Leu Arg Arg Phe Leu Pro Pro Ser
 100 105 110

Val Ala Pro Ala Gly Gln Ser Leu Thr Lys Ile Glu Thr Leu Arg Leu
 115 120 125

Ala Ile Arg Tyr Ile Gly His Leu Ser Ala Val Leu Gly Leu Ser Glu
 130 135 140

Glu Ser Leu Gln Arg Arg Cys Arg Gln Arg Gly Asp Ala Gly Ser Pro

145		150		155		160
Arg Gly Cys Pro Leu Cys Pro Asp Asp Cys Pro Ala Gln Met Gln Thr						
	165			170		175
Arg Thr Gln Ala Glu Gly Gln Gly Gln Gly Arg Gly Leu Gly Leu Val						
	180			185		190
Ser Ala Val Arg Ala Gly Ala Ser Trp Gly Ser Pro Pro Ala Cys Pro						
	195			200		205
Gly Ala Arg Ala Ala Pro Glu Pro Arg Asp Pro Pro Ala Leu Phe Ala						
	210			215		220
Glu Ala Ala Cys Pro Glu Gly Gln Ala Met Glu Pro Ser Pro Pro Ser						
	225			230		235
						240
Pro Leu Leu Pro Gly Asp Val Leu Ala Leu Leu Glu Thr Trp Met Pro						
	245			250		255
Leu Ser Pro Leu Glu Trp Leu Pro Glu Glu Pro Lys						
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<210> 105
 <211> 3810
 <212> DNA
 <213> human organism

<400> 105	
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ggaaaaaaaa aaaaaaaaaa aaaaaaaaaa	3810

<210> 106

<211> 1016

<212> PRT

<213> human organism

<400> 106

Met Ala Ser Thr Gly Gly Thr Lys Val Val Ala Met Gly Val Ala Pro
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Trp Gly Val Val Arg Asn Arg Asp Thr Leu Ile Asn Pro Lys Gly Ser
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Phe Pro Ala Arg Tyr Arg Trp Arg Gly Asp Pro Glu Asp Gly Val Gln
35 40 45

Phe Pro Leu Asp Tyr Asn Tyr Ser Ala Phe Phe Leu Val Asp Asp Gly
50 55 60

Thr His Gly Cys Leu Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu
65 70 75 80

Ser Tyr Ile Ser Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp
85 90 95

Ile Pro Val Leu Leu Leu Leu Ile Asp Gly Asp Glu Lys Met Leu Thr
100 105 110

Arg Ile Glu Asn Ala Thr Gln Ala Gln Leu Pro Cys Leu Leu Val Ala
115 120 125

Gly Ser Gly Gly Ala Ala Asp Cys Leu Ala Glu Thr Leu Glu Asp Thr
130 135 140

Leu Ala Pro Gly Ser Gly Gly Ala Arg Gln Gly Glu Ala Arg Asp Arg
145 150 155 160

Ile Arg Arg Phe Phe Pro Lys Gly Asp Leu Glu Val Leu Gln Ala Gln
165 170 175

Val Glu Arg Ile Met Thr Arg Lys Glu Leu Leu Thr Val Tyr Ser Ser
180 185 190

Glu Asp Gly Ser Glu Glu Phe Glu Thr Ile Val Leu Lys Ala Leu Val
195 200 205

Lys Ala Cys Gly Ser Ser Glu Ala Ser Ala Tyr Leu Asp Glu Leu Arg
210 215 220

Leu Ala Val Ala Trp Asn Arg Val Asp Ile Ala Gln Ser Glu Leu Phe
225 230 235 240

Arg Gly Asp Ile Gln Trp Arg Ser Phe His Leu Glu Ala Ser Leu Met
245 250 255

Asp Ala Leu Leu Asn Asp Arg Pro Glu Phe Val Arg Leu Leu Ile Ser
260 265 270

His Gly Leu Ser Leu Gly His Phe Leu Thr Pro Met Arg Leu Ala Gln
275 280 285

Leu Tyr Ser Ala Ala Pro Ser Asn Ser Leu Ile Arg Asn Leu Leu Asp
290 295 300

Gln Ala Ser His Ser Ala Gly Thr Lys Ala Pro Ala Leu Lys Gly Gly
305 310 315 320

Ala Ala Glu Leu Arg Pro Pro Asp Val Gly His Val Leu Arg Met Leu
325 330 335

Leu Gly Lys Met Cys Ala Pro Arg Tyr Pro Ser Gly Gly Ala Trp Asp
340 345 350

Pro His Pro Gly Gln Gly Phe Gly Glu Ser Met Tyr Leu Leu Ser Asp
355 360 365

Lys Ala Thr Ser Pro Leu Ser Leu Asp Ala Gly Leu Gly Gln Ala Pro
370 375 380

Trp Ser Asp Leu Leu Leu Trp Ala Leu Leu Leu Asn Arg Ala Gln Met
385 390 395 400

Ala Met Tyr Phe Trp Glu Met Gly Ser Asn Ala Val Ser Ser Ala Leu
405 410 415

Gly Ala Cys Leu Leu Leu Arg Val Met Ala Arg Leu Glu Pro Asp Ala
420 425 430

Glu Glu Ala Ala Arg Arg Lys Asp Leu Ala Phe Lys Phe Glu Gly Met
435 440 445

Gly Val Asp Leu Phe Gly Glu Cys Tyr Arg Ser Ser Glu Val Arg Ala
450 455 460

Ala Arg Leu Leu Leu Arg Arg Cys Pro Leu Trp Gly Asp Ala Thr Cys
465 470 475 480

Leu Gln Leu Ala Met Gln Ala Asp Ala Arg Ala Phe Phe Ala Gln Asp
485 490 495

Gly Val Gln Ser Leu Leu Thr Gln Lys Trp Trp Gly Asp Met Ala Ser
500 505 510

Thr Thr Pro Ile Trp Ala Leu Val Leu Ala Phe Phe Cys Pro Pro Leu
515 520 525

Ile Tyr Thr Arg Leu Ile Thr Phe Arg Lys Ser Glu Glu Glu Pro Thr
530 535 540

Arg Glu Glu Leu Glu Phe Asp Met Asp Ser Val Ile Asn Gly Glu Gly
545 550 555 560

Pro Val Gly Thr Ala Asp Pro Ala Glu Lys Thr Pro Leu Gly Val Pro
565 570 575

Arg Gln Ser Gly Arg Pro Gly Cys Cys Gly Gly Arg Cys Gly Gly Arg
580 585 590

Arg Cys Leu Arg Arg Trp Phe His Phe Trp Gly Ala Pro Val Thr Ile
595 600 605

Phe Met Gly Asn Val Val Ser Tyr Leu Leu Phe Leu Leu Leu Phe Ser
610 615 620

Arg Val Leu Leu Val Asp Phe Gln Pro Ala Pro Pro Gly Ser Leu Glu
625 630 635 640

Leu Leu Leu Tyr Phe Trp Ala Phe Thr Leu Leu Cys Glu Glu Leu Arg
645 650 655

Gln Gly Leu Ser Gly Gly Gly Gly Ser Leu Ala Ser Gly Gly Pro Gly
660 665 670

Pro Gly His Ala Ser Leu Ser Gln Arg Leu Arg Leu Tyr Leu Ala Asp

675					680					685						
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690					695					700						
Val	Gly	Cys	Arg	Leu	Thr	Pro	Gly	Leu	Tyr	His	Leu	Gly	Arg	Thr	Val	
705					710					715					720	
Leu	Cys	Ile	Asp	Phe	Met	Val	Phe	Thr	Val	Arg	Leu	Leu	His	Ile	Phe	
725					730					735						
Thr	Val	Asn	Lys	Gln	Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	
740					745					750						
Met	Lys	Asp	Val	Phe	Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	
755					760					765						
Ala	Tyr	Gly	Val	Ala	Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	
770					775					780						
Phe	Pro	Ser	Ile	Leu	Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	
785					790					795					800	
Phe	Gly	Gln	Ile	Pro	Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	
805					810					815						
Ser	Asn	Cys	Ser	Ser	Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	
820					825					830						
Gln	Ala	Gly	Thr	Cys	Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	
835					840					845						
Leu	Leu	Val	Ile	Phe	Leu	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	
850					855					860						
Leu	Ile	Ala	Met	Phe	Ser	Tyr	Thr	Phe	Gly	Lys	Val	Gln	Gly	Asn	Ser	
865					870					875					880	
Asp	Leu	Tyr	Trp	Lys	Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	
885					890					895						
Ser	Arg	Pro	Ala	Leu	Ala	Pro	Pro	Phe	Ile	Val	Ile	Ser	His	Leu	Arg	
900					905					910						

Leu Leu Leu Arg Gln Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser
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Ser Pro Ala Leu Glu His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu
 930 935 940

Arg Lys Leu Leu Thr Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu
 945 950 955 960

Ala Arg Ala Arg Asp Lys Arg Glu Ser Asp Ser Glu Arg Leu Glu Arg
 965 970 975

Thr Ser Gln Lys Val Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg
 980 985 990

Glu Tyr Glu Gln Arg Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys
 995 1000 1005

Ser Arg Val Leu Gly Trp Val Thr
 1010 1015

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<400> 108

Met Ser Met Leu Pro Ser Phe Gly Phe Thr Gln Glu Gln Val Ala Cys
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Val Cys Glu Val Leu Gln Gln Gly Gly Asn Leu Glu Arg Leu Gly Arg
 20 25 30

Phe Leu Trp Ser Leu Pro Ala Cys Asp His Leu His Lys Asn Glu Ser
 35 40 45

Val Leu Lys Ala Lys Ala Val Val Ala Phe His Arg Gly Asn Phe Arg
 50 55 60

Glu Leu Tyr Lys Ile Leu Glu Ser His Gln Phe Ser Pro His Asn His
 65 70 75 80

Pro Lys Leu Gln Gln Leu Trp Leu Lys Ala His Tyr Val Glu Ala Glu
 85 90 95

Lys Leu Arg Gly Arg Pro Leu Gly Ala Val Gly Lys Tyr Arg Val Arg
100 105 110

Arg Lys Phe Pro Leu Pro Arg Thr Ile Trp Asp Gly Glu Glu Thr Ser
115 120 125

Tyr Cys Phe Lys Glu Lys Ser Arg Gly Val Leu Arg Glu Trp Tyr Ala
130 135 140

His Asn Pro Tyr Pro Ser Pro Arg Glu Lys Arg Glu Leu Ala Glu Ala
145 150 155 160

Thr Gly Leu Thr Thr Thr Gln Val Ser Asn Trp Phe Lys Asn Arg Arg
165 170 175

Gln Arg Asp Arg Ala Ala Glu Ala Lys Glu Arg Glu Asn Thr Glu Asn
180 185 190

Asn Asn Ser Ser Ser Asn Lys Gln Asn Gln Leu Ser Pro Leu Glu Gly
195 200 205

Gly Lys Pro Leu Met Ser Ser Ser Glu Glu Glu Phe Ser Pro Pro Gln
210 215 220

Ser Pro Asp Gln Asn Ser Val Leu Leu Leu Gln Gly Asn Met Gly His
225 230 235 240

Ala Arg Ser Ser Asn Tyr Ser Leu Pro Gly Leu Thr Ala Ser Gln Pro
245 250 255

Ser His Gly Leu Gln Thr His Gln His Gln Leu Gln Asp Ser Leu Leu
260 265 270

Gly Pro Leu Thr Ser Ser Leu Val Asp Leu Gly Ser
275 280

<210> 109

<211> 3885

<212> DNA

<213> human organism

<400> 109

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<210> 110
<211> 667
<212> PRT
<213> human organism

<400> 110

Met Lys Glu Lys Ser Lys Asn Ala Ala Lys Thr Arg Arg Glu Lys Glu
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Asn Gly Glu Phe Tyr Glu Leu Ala Lys Leu Leu Pro Leu Pro Ser Ala
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Ile Thr Ser Gln Leu Asp Lys Ala Ser Ile Ile Arg Leu Thr Thr Ser
35 40 45

Tyr Leu Lys Met Arg Ala Val Phe Pro Glu Gly Leu Gly Asp Ala Trp
50 55 60

Gly Gln Pro Ser Arg Ala Gly Pro Leu Asp Gly Val Ala Lys Glu Leu
65 70 75 80

Gly Ser His Leu Leu Gln Thr Leu Asp Gly Phe Val Phe Val Val Ala
85 90 95

Ser Asp Gly Lys Ile Met Tyr Ile Ser Glu Thr Ala Ser Val His Leu
100 105 110

Gly Leu Ser Gln Val Glu Leu Thr Gly Asn Ser Ile Tyr Glu Tyr Ile
115 120 125

His Pro Ser Asp His Asp Glu Met Thr Ala Val Leu Thr Ala His Gln
130 135 140

Pro Leu His His His Leu Leu Gln Glu Tyr Glu Ile Glu Arg Ser Phe
145 150 155 160

Phe Leu Arg Met Lys Cys Val Leu Ala Lys Arg Asn Ala Gly Leu Thr
165 170 175

Cys Ser Gly Tyr Lys Val Ile His Cys Ser Gly Tyr Leu Lys Ile Arg
180 185 190

Gln Tyr Met Leu Asp Met Ser Leu Tyr Asp Ser Cys Tyr Gln Ile Val
195 200 205

Gly Leu Val Ala Val Gly Gln Ser Leu Pro Pro Ser Ala Ile Thr Glu
210 215 220

Ile Lys Leu Tyr Ser Asn Met Phe Met Phe Arg Ala Ser Leu Asp Leu
225 230 235 240

Lys Leu Ile Phe Leu Asp Ser Arg Val Thr Glu Val Thr Gly Tyr Glu
245 250 255

Pro Gln Asp Leu Ile Glu Lys Thr Leu Tyr His His Val His Gly Cys
260 265 270

Asp Val Phe His Leu Arg Tyr Ala His His Leu Leu Leu Val Lys Gly
275 280 285

Gln Val Thr Thr Lys Tyr Tyr Arg Leu Leu Ser Lys Arg Gly Gly Trp
290 295 300

Val Trp Val Gln Ser Tyr Ala Thr Val Val His Asn Ser Arg Ser Ser
305 310 315 320

Arg Pro His Cys Ile Val Ser Val Asn Tyr Val Leu Thr Glu Ile Glu
325 330 335

Tyr Lys Glu Leu Gln Leu Ser Leu Glu Gln Val Ser Thr Ala Lys Ser
340 345 350

Gln Asp Ser Trp Arg Thr Ala Leu Ser Thr Ser Gln Glu Thr Arg Lys
355 360 365

Leu Val Lys Pro Lys Asn Thr Lys Met Lys Thr Lys Leu Arg Thr Asn

370

375

380

Pro Tyr Pro Pro Gln Gln Tyr Ser Ser Phe Gln Met Asp Lys Leu Glu
 385 390 395 400

Cys Gly Gln Leu Gly Asn Trp Arg Ala Ser Pro Pro Ala Ser Ala Ala
 405 410 415

Ala Pro Pro Glu Leu Gln Pro His Ser Glu Ser Ser Asp Leu Leu Tyr
 420 425 430

Thr Pro Ser Tyr Ser Leu Pro Phe Ser Tyr His Tyr Gly His Phe Pro
 435 440 445

Leu Asp Ser His Val Phe Ser Ser Lys Lys Pro Met Leu Pro Ala Lys
 450 455 460

Phe Gly Gln Pro Gln Gly Ser Pro Cys Glu Val Ala Arg Phe Phe Leu
 465 470 475 480

Ser Thr Leu Pro Ala Ser Gly Glu Cys Gln Trp His Tyr Ala Asn Pro
 485 490 495

Leu Val Pro Ser Ser Ser Ser Pro Ala Lys Asn Pro Pro Glu Pro Pro
 500 505 510

Ala Asn Thr Ala Arg His Ser Leu Val Pro Ser Tyr Glu Ala Pro Ala
 515 520 525

Ala Ala Val Arg Arg Phe Gly Glu Asp Thr Ala Pro Pro Ser Phe Pro
 530 535 540

Ser Cys Gly His Tyr Arg Glu Glu Pro Ala Leu Gly Pro Ala Lys Ala
 545 550 555 560

Ala Arg Gln Ala Ala Arg Asp Gly Ala Arg Leu Ala Leu Ala Arg Ala
 565 570 575

Ala Pro Glu Cys Cys Ala Pro Pro Thr Pro Glu Ala Pro Gly Ala Pro
 580 585 590

Ala Gln Leu Pro Phe Val Leu Leu Asn Tyr His Arg Val Leu Ala Arg
 595 600 605

Arg Gly Pro Leu Gly Gly Ala Ala Pro Ala Ala Ser Gly Leu Ala Cys
610 615 620

Ala Pro Gly Gly Pro Glu Ala Ala Thr Gly Ala Leu Arg Leu Arg His
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Pro Ser Pro Ala Ala Thr Ser Pro Pro Gly Ala Pro Leu Pro His Tyr
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Leu Gly Ala Ser Val Ile Ile Thr Asn Gly Arg
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<211> 1804
<212> DNA
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<400> 111
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<210> 112
<211> 417
<212> PRT
<213> human organism

<400> 112

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Ser Pro Gln Ser Ser Pro Arg Leu Pro Arg Arg Pro Thr Val Glu Ser
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His His Val Ser Ile Thr Gly Met Gln Asp Cys Val Gln Leu Asn Gln
35 40 45

Tyr Thr Leu Lys Asp Glu Ile Gly Lys Gly Ser Tyr Gly Val Val Lys
50 55 60

Leu Ala Tyr Asn Glu Asn Asp Asn Thr Tyr Tyr Ala Met Lys Val Leu
65 70 75 80

Ser Lys Lys Lys Leu Ile Arg Gln Ala Gly Phe Pro Arg Arg Pro Pro
85 90 95

Pro Arg Gly Thr Arg Pro Ala Pro Gly Gly Cys Ile Gln Pro Arg Gly
100 105 110

Pro Ile Glu Gln Val Tyr Gln Glu Ile Ala Ile Leu Lys Lys Leu Asp
115 120 125

His Pro Asn Val Val Lys Leu Val Glu Val Leu Asp Asp Pro Asn Glu
130 135 140

Asp His Leu Tyr Met Val Phe Glu Leu Val Asn Gln Gly Pro Val Met
145 150 155 160

Glu Val Pro Thr Leu Lys Pro Leu Ser Glu Asp Gln Ala Arg Phe Tyr
165 170 175

Phe Gln Asp Leu Ile Lys Gly Ile Glu Tyr Leu His Tyr Gln Lys Ile
180 185 190

Ile His Arg Asp Ile Lys Pro Ser Asn Leu Leu Val Gly Glu Asp Gly
195 200 205

His Ile Lys Ile Ala Asp Phe Gly Val Ser Asn Glu Phe Lys Gly Ser
210 215 220

Asp Ala Leu Leu Ser Asn Thr Val Gly Thr Pro Ala Phe Met Ala Pro
225 230 235 240

Glu Ser Leu Ser Glu Thr Arg Lys Ile Phe Ser Gly Lys Ala Leu Asp
245 250 255

Val Trp Ala Met Gly Val Thr Leu Tyr Cys Phe Val Phe Gly Gln Cys
260 265 270

Pro Phe Met Asp Glu Arg Ile Met Cys Leu His Ser Lys Ile Lys Ser
275 280 285

Gln Ala Leu Glu Phe Pro Asp Gln Pro Asp Ile Ala Glu Asp Leu Lys
290 295 300

Asp Leu Ile Thr Arg Met Leu Asp Lys Asn Pro Glu Ser Arg Ile Val

305 310 315 320
 Val Pro Glu Ile Lys Leu His Pro Trp Val Thr Arg His Gly Ala Glu
 325 330 335
 Pro Leu Pro Ser Glu Asp Glu Asn Cys Thr Leu Val Glu Val Thr Glu
 340 345 350
 Glu Glu Val Glu Asn Ser Val Lys His Ile Pro Ser Leu Ala Thr Val
 355 360 365
 Ile Leu Val Lys Thr Met Ile Arg Lys Arg Ser Phe Gly Asn Pro Phe
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<210> 113
 <211> 429
 <212> DNA
 <213> human organism

<400> 113
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 ccttctctaa 429

<210> 114
 <211> 142
 <212> PRT

<213> human organism

<400> 114

Met Lys Pro Leu Ile Trp Thr Trp Ser Asp Val Glu Gly Gln Arg Pro
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Ala Leu Leu Ile Cys Thr Ala Ala Ala Gly Pro Thr Gln Gly Val Lys
20 25 30

Gly Tyr Gly Lys Pro Phe Glu Pro Arg Ser Val Lys Asn Ile His Ser
35 40 45

Thr Pro Ala Tyr Pro Asp Ala Thr Met His Arg Gln Leu Leu Ala Pro
50 55 60

Val Glu Gly Arg Met Ala Glu Thr Leu Asn Gln Lys Leu His Val Ala
65 70 75 80

Asn Val Leu Glu Asp Asp Pro Gly Tyr Leu Pro His Val Tyr Ser Glu
85 90 95

Glu Gly Glu Cys Gly Gly Ala Pro Ser Leu Ser Ser Leu Ala Ser Leu
100 105 110

Glu Gln Glu Leu Gln Pro Asp Leu Leu Asp Ser Leu Gly Ser Lys Ala
115 120 125

Thr Pro Phe Glu Glu Ile Tyr Ser Glu Ser Gly Val Pro Ser
130 135 140

<210> 115

<211> 1270

<212> DNA

<213> human organism

<400> 115

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 <213> human organism

<400> 116

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Gly Leu Leu Gly Ala Gly Gly Gly Arg Asn Leu Val Ala His Ser Pro
 20 25 30

Leu Thr Ser His Pro Ala Ala Pro Thr Leu Met Pro Ala Val Asn Tyr
 35 40 45

Ala Pro Leu Asp Leu Pro Gly Ser Ala Glu Pro Pro Lys Gln Cys His
 50 55 60

Pro Cys Pro Gly Val Pro Gln Gly Thr Ser Pro Ala Pro Val Pro Tyr
65 70 75 80

Gly Tyr Phe Gly Gly Gly Tyr Tyr Ser Cys Arg Val Ser Arg Ser Ser
85 90 95

Leu Lys Pro Cys Ala Gln Ala Ala Thr Leu Ala Ala Tyr Pro Ala Glu
100 105 110

Thr Pro Thr Ala Gly Glu Glu Tyr Pro Ser Arg Pro Thr Glu Phe Ala
115 120 125

Phe Tyr Pro Gly Tyr Pro Gly Thr Tyr His Ala Met Ala Ser Tyr Leu
130 135 140

Asp Val Ser Val Val Gln Thr Leu Gly Ala Pro Gly Glu Pro Arg His
145 150 155 160

Asp Ser Leu Leu Pro Val Asp Ser Tyr Gln Ser Trp Ala Leu Ala Gly
165 170 175

Gly Trp Asn Ser Gln Met Cys Cys Gln Gly Glu Gln Asn Pro Pro Gly
180 185 190

Pro Phe Trp Lys Ala Ala Phe Ala Asp Ser Ser Gly Gln His Pro Pro
195 200 205

Asp Ala Cys Ala Phe Arg Arg Gly Arg Lys Lys Arg Ile Pro Tyr Ser
210 215 220

Lys Gly Gln Leu Arg Glu Leu Glu Arg Glu Tyr Ala Ala Asn Lys Phe
225 230 235 240

Ile Thr Lys Asp Lys Arg Arg Lys Ile Ser Ala Ala Thr Ser Leu Ser
245 250 255

Glu Arg Gln Ile Thr Ile Trp Phe Gln Asn Arg Arg Val Lys Glu Lys
260 265 270

Lys Val Leu Ala Lys Val Lys Asn Ser Ala Thr Pro
275 280

<210> 117

<211> 2856
<212> DNA
<213> human organism

<400> 117
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<210> 118

<211> 541

<212> PRT

<213> human organism

<400> 118

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Pro Thr Ala Asn Gly Gly Leu Ala Leu Ala Ser Ile Glu Asp Gln Gly

20

25

30

Ala Ala Ala Gly Gly Tyr Cys Gly Ser Arg Asp Gln Val Arg Arg Cys
 35 40 45

Leu Arg Ala Asn Leu Leu Val Leu Leu Thr Val Val Ala Val Val Ala
 50 55 60

Gly Val Ala Leu Gly Leu Gly Val Ser Gly Ala Gly Gly Ala Leu Ala
 65 70 75 80

Leu Gly Pro Glu Arg Leu Ser Ala Phe Val Phe Pro Gly Glu Leu Leu
 85 90 95

Leu Arg Leu Leu Arg Met Ile Ile Leu Pro Leu Val Val Cys Ser Leu
 100 105 110

Ile Gly Gly Ala Ala Ser Leu Asp Pro Gly Ala Leu Gly Arg Leu Gly
 115 120 125

Ala Trp Ala Leu Leu Phe Phe Leu Val Thr Thr Leu Leu Ala Ser Ala
 130 135 140

Leu Gly Val Gly Leu Ala Leu Ala Leu Gln Pro Gly Ala Ala Ser Ala
 145 150 155 160

Ala Ile Asn Ala Ser Val Gly Ala Ala Gly Ser Ala Glu Asn Ala Pro
 165 170 175

Ser Lys Glu Val Leu Asp Ser Phe Leu Asp Leu Ala Arg Asn Ile Phe
 180 185 190

Pro Ser Asn Leu Val Ser Ala Ala Phe Arg Ser Tyr Ser Thr Thr Tyr
 195 200 205

Glu Glu Arg Asn Ile Thr Gly Thr Arg Val Lys Val Pro Val Gly Gln
 210 215 220

Glu Val Glu Gly Met Asn Ile Leu Gly Leu Val Val Phe Ala Ile Val
 225 230 235 240

Phe Gly Val Ala Leu Arg Lys Leu Gly Pro Glu Gly Glu Leu Leu Ile
 245 250 255

Arg Phe Phe Asn Ser Phe Asn Glu Ala Thr Met Val Leu Val Ser Trp
260 265 270

Ile Met Trp Tyr Ala Pro Val Gly Ile Met Phe Leu Val Ala Gly Lys
275 280 285

Ile Val Glu Met Glu Asp Val Gly Leu Leu Phe Ala Arg Leu Gly Lys
290 295 300

Tyr Ile Leu Cys Cys Leu Leu Gly His Ala Ile His Gly Leu Leu Val
305 310 315 320

Leu Pro Leu Ile Tyr Phe Leu Phe Thr Arg Lys Asn Pro Tyr Arg Phe
325 330 335

Leu Trp Gly Ile Val Thr Pro Leu Ala Thr Ala Phe Gly Thr Ser Ser
340 345 350

Ser Ser Ala Thr Leu Pro Leu Met Met Lys Cys Val Glu Glu Asn Asn
355 360 365

Gly Val Ala Lys His Ile Ser Arg Phe Ile Leu Pro Ile Gly Ala Thr
370 375 380

Val Asn Met Asp Gly Ala Ala Leu Phe Gln Cys Val Ala Ala Val Phe
385 390 395 400

Ile Ala Gln Leu Ser Gln Gln Ser Leu Asp Phe Val Lys Ile Ile Thr
405 410 415

Ile Leu Val Thr Ala Thr Ala Ser Ser Val Gly Ala Ala Gly Ile Pro
420 425 430

Ala Gly Gly Val Leu Thr Leu Ala Ile Ile Leu Glu Ala Val Asn Leu
435 440 445

Pro Val Asp His Ile Ser Leu Ile Leu Ala Val Asp Trp Leu Val Asp
450 455 460

Arg Ser Cys Thr Val Leu Asn Val Glu Gly Asp Ala Leu Gly Ala Gly
465 470 475 480

Leu Leu Gln Asn Tyr Val Asp Arg Thr Glu Ser Arg Ser Thr Glu Pro
485 490 495

Glu Leu Ile Gln Val Lys Ser Glu Leu Pro Leu Asp Pro Leu Pro Val
500 505 510

Pro Thr Glu Glu Gly Asn Pro Leu Leu Lys His Tyr Arg Gly Pro Ala
515 520 525

Gly Asp Ala Thr Val Ala Ser Glu Lys Glu Ser Val Met
530 535 540

<210> 119
<211> 1993
<212> DNA
<213> human organism

<400> 119
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<210> 120
 <211> 184
 <212> PRT
 <213> human organism

<400> 120

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Leu Ser Cys Cys Ser Asp Ala Asp Pro Ser Thr Lys Asp Phe Leu Leu
 20 25 30

Gln Gln Thr Met Leu Arg Val Lys Asp Pro Lys Lys Ser Leu Asp Phe
 35 40 45

Tyr Thr Arg Val Leu Gly Met Thr Leu Ile Gln Lys Cys Asp Phe Pro
 50 55 60

Ile Met Lys Phe Ser Leu Tyr Phe Leu Ala Tyr Glu Asp Lys Asn Asp
65 70 75 80

Ile Pro Lys Glu Lys Asp Glu Lys Ile Ala Trp Ala Leu Ser Arg Lys
85 90 95

Ala Thr Leu Glu Leu Thr His Asn Trp Gly Thr Glu Asp Asp Ala Thr
100 105 110

Gln Ser Tyr His Asn Gly Asn Ser Asp Pro Arg Gly Phe Gly His Ile
115 120 125

Gly Ile Ala Val Pro Asp Val Tyr Ser Ala Cys Lys Arg Phe Glu Glu
130 135 140

Leu Gly Val Lys Phe Val Lys Lys Pro Asp Asp Gly Lys Met Lys Gly
145 150 155 160

Leu Ala Phe Ile Gln Asp Pro Asp Gly Tyr Trp Ile Glu Ile Leu Asn
165 170 175

Pro Asn Lys Met Ala Thr Leu Met
180

<210> 121
<211> 808
<212> DNA
<213> human organism

<400> 121
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<210> 122
 <211> 219
 <212> PRT
 <213> human organism

<400> 122

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Val Gly Lys Thr Ser Phe Leu Leu Arg Tyr Ala Asp Asp Thr Phe Thr
 35 40 45

Pro Ala Phe Val Ser Thr Val Gly Ile Asp Phe Lys Val Lys Thr Val
 50 55 60

Tyr Arg His Glu Lys Arg Val Lys Leu Gln Ile Trp Asp Thr Ala Gly
 65 70 75 80

Gln Glu Arg Tyr Arg Thr Ile Thr Thr Ala Tyr Tyr Arg Gly Ala Met
 85 90 95

Gly Phe Ile Leu Met Tyr Asp Ile Thr Asn Glu Glu Ser Phe Asn Ala
 100 105 110

Val Gln Asp Trp Ala Thr Gln Ile Lys Thr Tyr Ser Trp Asp Asn Ala
 115 120 125

Gln Val Ile Leu Val Gly Asn Lys Cys Asp Met Glu Glu Glu Arg Val
 130 135 140

Val Pro Thr Glu Lys Gly Gln Leu Leu Ala Glu Gln Leu Gly Phe Asp
 145 150 155 160

Phe Phe Glu Ala Ser Ala Lys Glu Asn Ile Ser Val Arg Gln Ala Phe
165 170 175

Glu Arg Leu Val Asp Ala Ile Cys Asp Lys Met Ser Asp Ser Leu Asp
180 185 190

Thr Asp Pro Ser Met Leu Gly Ser Ser Lys Asn Thr Arg Leu Ser Asp
195 200 205

Thr Pro Pro Leu Leu Gln Gln Asn Cys Ser Cys
210 215

<210> 123
<211> 5060
<212> DNA
<213> human organism

<400> 123
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 <211> 1487
 <212> PRT
 <213> human organism

<400> 124

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Ser Cys Val Gln Asp Gly Gln Arg Tyr Asn Asp Lys Asp Val Trp Lys
 35 40 45

Pro Glu Pro Cys Arg Ile Cys Val Cys Asp Thr Gly Thr Val Leu Cys
 50 55 60

Asp Asp Ile Ile Cys Glu Asp Val Lys Asp Cys Leu Ser Pro Glu Ile
 65 70 75 80

Pro Phe Gly Glu Cys Cys Pro Ile Cys Pro Thr Asp Leu Ala Thr Ala
 85 90 95

Ser Gly Gln Pro Gly Pro Lys Gly Gln Lys Gly Glu Pro Gly Asp Ile
 100 105 110

Lys Asp Ile Val Gly Pro Lys Gly Pro Pro Gly Pro Gln Gly Pro Ala
115 120 125

Gly Glu Gln Gly Pro Arg Gly Asp Arg Gly Asp Lys Gly Glu Lys Gly
130 135 140

Ala Pro Gly Pro Arg Gly Arg Asp Gly Glu Pro Gly Thr Pro Gly Asn
145 150 155 160

Pro Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Leu Gly
165 170 175

Gly Asn Phe Ala Ala Gln Met Ala Gly Gly Phe Asp Glu Lys Ala Gly
180 185 190

Gly Ala Gln Leu Gly Val Met Gln Gly Pro Met Gly Pro Met Gly Pro
195 200 205

Arg Gly Pro Pro Gly Pro Ala Gly Ala Pro Gly Pro Gln Gly Phe Gln
210 215 220

Gly Asn Pro Gly Glu Pro Gly Glu Pro Gly Val Ser Gly Pro Met Gly
225 230 235 240

Pro Arg Gly Pro Pro Gly Pro Pro Gly Lys Pro Gly Asp Asp Gly Glu
245 250 255

Ala Gly Lys Pro Gly Lys Ala Gly Glu Arg Gly Pro Pro Gly Pro Gln
260 265 270

Gly Ala Arg Gly Phe Pro Gly Thr Pro Gly Leu Pro Gly Val Lys Gly
275 280 285

His Arg Gly Tyr Pro Gly Leu Asp Gly Ala Lys Gly Glu Ala Gly Ala
290 295 300

Pro Gly Val Lys Gly Glu Ser Gly Ser Pro Gly Glu Asn Gly Ser Pro
305 310 315 320

Gly Pro Met Gly Pro Arg Gly Leu Pro Gly Glu Arg Gly Arg Thr Gly
325 330 335

Pro Ala Gly Ala Ala Gly Ala Arg Gly Asn Asp Gly Gln Pro Gly Pro
340 345 350

Ala Gly Pro Pro Gly Pro Val Gly Pro Ala Gly Gly Pro Gly Phe Pro
355 360 365

Gly Ala Pro Gly Ala Lys Gly Glu Ala Gly Pro Thr Gly Ala Arg Gly
370 375 380

Pro Glu Gly Ala Gln Gly Pro Arg Gly Glu Pro Gly Thr Pro Gly Ser
385 390 395 400

Pro Gly Pro Ala Gly Ala Ser Gly Asn Pro Gly Thr Asp Gly Ile Pro
405 410 415

Gly Ala Lys Gly Ser Ala Gly Ala Pro Gly Ile Ala Gly Ala Pro Gly
420 425 430

Phe Pro Gly Pro Arg Gly Pro Pro Gly Pro Gln Gly Ala Thr Gly Pro
435 440 445

Leu Gly Pro Lys Gly Gln Thr Gly Glu Pro Gly Ile Ala Gly Phe Lys
450 455 460

Gly Glu Gln Gly Pro Lys Gly Glu Pro Gly Pro Ala Gly Pro Gln Gly
465 470 475 480

Ala Pro Gly Pro Ala Gly Glu Glu Gly Lys Arg Gly Ala Arg Gly Glu
485 490 495

Pro Gly Gly Val Gly Pro Ile Gly Pro Pro Gly Glu Arg Gly Ala Pro
500 505 510

Gly Asn Arg Gly Phe Pro Gly Gln Asp Gly Leu Ala Gly Pro Lys Gly
515 520 525

Ala Pro Gly Glu Arg Gly Pro Ser Gly Leu Ala Gly Pro Lys Gly Ala
530 535 540

Asn Gly Asp Pro Gly Arg Pro Gly Glu Pro Gly Leu Pro Gly Ala Arg
545 550 555 560

Gly Leu Thr Gly Arg Pro Gly Asp Ala Gly Pro Gln Gly Lys Val Gly

565

570

575

Pro Ser Gly Ala Pro Gly Glu Asp Gly Arg Pro Gly Pro Pro Gly Pro
 580 585 590

Gln Gly Ala Arg Gly Gln Pro Gly Val Met Gly Phe Pro Gly Pro Lys
 595 600 605

Gly Ala Asn Gly Glu Pro Gly Lys Ala Gly Glu Lys Gly Leu Pro Gly
 610 615 620

Ala Pro Gly Leu Arg Gly Leu Pro Gly Lys Asp Gly Glu Thr Gly Ala
 625 630 635 640

Ala Gly Pro Pro Gly Pro Ala Gly Pro Ala Gly Glu Arg Gly Glu Gln
 645 650 655

Gly Ala Pro Gly Pro Ser Gly Phe Gln Gly Leu Pro Gly Pro Pro Gly
 660 665 670

Pro Pro Gly Glu Gly Gly Lys Pro Gly Asp Gln Gly Val Pro Gly Glu
 675 680 685

Ala Gly Ala Pro Gly Leu Val Gly Pro Arg Gly Glu Arg Gly Phe Pro
 690 695 700

Gly Glu Arg Gly Ser Pro Gly Ala Gln Gly Leu Gln Gly Pro Arg Gly
 705 710 715 720

Leu Pro Gly Thr Pro Gly Thr Asp Gly Pro Lys Gly Ala Ser Gly Pro
 725 730 735

Ala Gly Pro Pro Gly Ala Gln Gly Pro Pro Gly Leu Gln Gly Met Pro
 740 745 750

Gly Glu Arg Gly Ala Ala Gly Ile Ala Gly Pro Lys Gly Asp Arg Gly
 755 760 765

Asp Val Gly Glu Lys Gly Pro Glu Gly Ala Pro Gly Lys Asp Gly Gly
 770 775 780

Arg Gly Leu Thr Gly Pro Ile Gly Pro Pro Gly Pro Ala Gly Ala Asn
 785 790 795 800

Gly Glu Lys Gly Glu Val Gly Pro Pro Gly Pro Ala Gly Ser Ala Gly
805 810 815

Ala Arg Gly Ala Pro Gly Glu Arg Gly Glu Thr Gly Pro Pro Gly Pro
820 825 830

Ala Gly Phe Ala Gly Pro Pro Gly Ala Asp Gly Gln Pro Gly Ala Lys
835 840 845

Gly Glu Gln Gly Glu Ala Gly Gln Lys Gly Asp Ala Gly Ala Pro Gly
850 855 860

Pro Gln Gly Pro Ser Gly Ala Pro Gly Pro Gln Gly Pro Thr Gly Val
865 870 875 880

Thr Gly Pro Lys Gly Ala Arg Gly Ala Gln Gly Pro Pro Gly Ala Thr
885 890 895

Gly Phe Pro Gly Ala Ala Gly Arg Val Gly Pro Pro Gly Ser Asn Gly
900 905 910

Asn Pro Gly Pro Pro Gly Pro Pro Gly Pro Ser Gly Lys Asp Gly Pro
915 920 925

Lys Gly Ala Arg Gly Asp Ser Gly Pro Pro Gly Arg Ala Gly Glu Pro
930 935 940

Gly Leu Gln Gly Pro Ala Gly Pro Pro Gly Glu Lys Gly Glu Pro Gly
945 950 955 960

Asp Asp Gly Pro Ser Gly Ala Glu Gly Pro Pro Gly Pro Gln Gly Leu
965 970 975

Ala Gly Gln Arg Gly Ile Val Gly Leu Pro Gly Gln Arg Gly Glu Arg
980 985 990

Gly Phe Pro Gly Leu Pro Gly Pro Ser Gly Glu Pro Gly Lys Gln Gly
995 1000 1005

Ala Pro Gly Ala Ser Gly Asp Arg Gly Pro Pro Gly Pro Val Gly
1010 1015 1020

Pro Pro Gly Leu Thr Gly Pro Ala Gly Glu Pro Gly Arg Glu Gly
1025 1030 1035

Ser Pro Gly Ala Asp Gly Pro Pro Gly Arg Asp Gly Ala Ala Gly
1040 1045 1050

Val Lys Gly Asp Arg Gly Glu Thr Gly Ala Val Gly Ala Pro Gly
1055 1060 1065

Ala Pro Gly Pro Pro Gly Ser Pro Gly Pro Ala Gly Pro Thr Gly
1070 1075 1080

Lys Gln Gly Asp Arg Gly Glu Ala Gly Ala Gln Gly Pro Met Gly
1085 1090 1095

Pro Ser Gly Pro Ala Gly Ala Arg Gly Ile Gln Gly Pro Gln Gly
1100 1105 1110

Pro Arg Gly Asp Lys Gly Glu Ala Gly Glu Pro Gly Glu Arg Gly
1115 1120 1125

Leu Lys Gly His Arg Gly Phe Thr Gly Leu Gln Gly Leu Pro Gly
1130 1135 1140

Pro Pro Gly Pro Ser Gly Asp Gln Gly Ala Ser Gly Pro Ala Gly
1145 1150 1155

Pro Ser Gly Pro Arg Gly Pro Pro Gly Pro Val Gly Pro Ser Gly
1160 1165 1170

Lys Asp Gly Ala Asn Gly Ile Pro Gly Pro Ile Gly Pro Pro Gly
1175 1180 1185

Pro Arg Gly Arg Ser Gly Glu Thr Gly Pro Ala Gly Pro Pro Gly
1190 1195 1200

Asn Pro Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Pro Gly Ile
1205 1210 1215

Asp Met Ser Ala Phe Ala Gly Leu Gly Pro Arg Glu Lys Gly Pro
1220 1225 1230

Asp	Pro	Leu	Gln	Tyr	Met	Arg	Ala	Asp	Gln	Ala	Ala	Gly	Gly	Leu
1235						1240						1245		
Arg	Gln	His	Asp	Ala	Glu	Val	Asp	Ala	Thr	Leu	Lys	Ser	Leu	Asn
1250						1255					1260			
Asn	Gln	Ile	Glu	Ser	Ile	Arg	Ser	Pro	Glu	Gly	Ser	Arg	Lys	Asn
1265						1270					1275			
Pro	Ala	Arg	Thr	Cys	Arg	Asp	Leu	Lys	Leu	Cys	His	Pro	Glu	Trp
1280						1285					1290			
Lys	Ser	Gly	Asp	Tyr	Trp	Ile	Asp	Pro	Asn	Gln	Gly	Cys	Thr	Leu
1295						1300					1305			
Asp	Ala	Met	Lys	Val	Phe	Cys	Asn	Met	Glu	Thr	Gly	Glu	Thr	Cys
1310						1315					1320			
Val	Tyr	Pro	Asn	Pro	Ala	Asn	Val	Pro	Lys	Lys	Asn	Trp	Trp	Ser
1325						1330					1335			
Ser	Lys	Ser	Lys	Glu	Lys	Lys	His	Ile	Trp	Phe	Gly	Glu	Thr	Ile
1340						1345					1350			
Asn	Gly	Gly	Phe	His	Phe	Ser	Tyr	Gly	Asp	Asp	Asn	Leu	Ala	Pro
1355						1360					1365			
Asn	Thr	Ala	Asn	Val	Gln	Met	Thr	Phe	Leu	Arg	Leu	Leu	Ser	Thr
1370						1375					1380			
Glu	Gly	Ser	Gln	Asn	Ile	Thr	Tyr	His	Cys	Lys	Asn	Ser	Ile	Ala
1385						1390					1395			
Tyr	Leu	Asp	Glu	Ala	Ala	Gly	Asn	Leu	Lys	Lys	Ala	Leu	Leu	Ile
1400						1405					1410			
Gln	Gly	Ser	Asn	Asp	Val	Glu	Ile	Arg	Ala	Glu	Gly	Asn	Ser	Arg
1415						1420					1425			
Phe	Thr	Tyr	Thr	Ala	Leu	Lys	Asp	Gly	Cys	Thr	Lys	His	Thr	Gly
1430						1435					1440			
Lys	Trp	Gly	Lys	Thr	Val	Ile	Glu	Tyr	Arg	Ser	Gln	Lys	Thr	Ser

1445

1450

1455

Arg Leu Pro Ile Ile Asp Ile Ala Pro Met Asp Ile Gly Gly Pro
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Glu Gln Glu Phe Gly Val Asp Ile Gly Pro Val Cys Phe Leu
 1475 1480 1485

<210> 125
 <211> 1505
 <212> DNA
 <213> human organism

<400> 125
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 aacacatcat gttacagaac tcttcaggaa tagagaaata caattaggat taaaataggt 1500
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<210> 126
 <211> 441
 <212> PRT
 <213> human organism

<400> 126

Met Val Pro Pro Lys Leu His Val Leu Phe Cys Leu Cys Gly Cys Leu
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Ala Val Val Tyr Pro Phe Asp Trp Gln Tyr Ile Asn Pro Val Ala His
 20 25 30

Met Lys Ser Ser Ala Trp Val Asn Lys Ile Gln Val Leu Met Ala Ala
 35 40 45

Ala Ser Phe Gly Gln Thr Lys Ile Pro Arg Gly Asn Gly Pro Tyr Ser
 50 55 60

Val Gly Cys Thr Asp Leu Met Phe Asp His Thr Asn Lys Gly Thr Phe
 65 70 75 80

Leu Arg Leu Tyr Tyr Pro Ser Gln Asp Asn Asp Arg Leu Asp Thr Leu
 85 90 95

Trp Ile Pro Asn Lys Glu Tyr Phe Trp Gly Leu Ser Lys Phe Leu Gly
 100 105 110

Thr His Trp Leu Met Gly Asn Ile Leu Arg Leu Leu Phe Gly Ser Met
 115 120 125

Thr Thr Pro Ala Asn Trp Asn Ser Pro Leu Arg Pro Gly Glu Lys Tyr
 130 135 140

Pro Leu Val Val Phe Ser His Gly Leu Gly Ala Phe Arg Thr Leu Tyr

145	150	155	160
Ser Ala Ile Gly Ile Asp Leu Ala Ser His Gly Phe Ile Val Ala Ala			
165	170	175	
Val Glu His Arg Asp Arg Ser Ala Ser Ala Thr Tyr Tyr Phe Lys Asp			
180	185	190	
Gln Ser Ala Ala Glu Ile Gly Asp Lys Ser Trp Leu Tyr Leu Arg Thr			
195	200	205	
Leu Lys Gln Glu Glu Glu Thr His Ile Arg Asn Glu Gln Val Arg Gln			
210	215	220	
Arg Ala Lys Glu Cys Ser Gln Ala Leu Ser Leu Ile Leu Asp Ile Asp			
225	230	235	240
His Gly Lys Pro Val Lys Asn Ala Leu Asp Leu Lys Phe Asp Met Glu			
245	250	255	
Gln Leu Lys Asp Ser Ile Asp Arg Glu Lys Ile Ala Val Ile Gly His			
260	265	270	
Ser Phe Gly Gly Ala Thr Val Ile Gln Thr Leu Ser Glu Asp Gln Arg			
275	280	285	
Phe Arg Cys Gly Ile Ala Leu Asp Ala Trp Met Phe Pro Leu Gly Asp			
290	295	300	
Glu Val Tyr Ser Arg Ile Pro Gln Pro Leu Phe Phe Ile Asn Ser Glu			
305	310	315	320
Tyr Phe Gln Tyr Pro Ala Asn Ile Ile Lys Met Lys Lys Cys Tyr Ser			
325	330	335	
Pro Asp Lys Glu Arg Lys Met Ile Thr Ile Arg Gly Ser Val His Gln			
340	345	350	
Asn Phe Ala Asp Phe Thr Phe Ala Thr Gly Lys Ile Ile Gly His Met			
355	360	365	
Leu Lys Leu Lys Gly Asp Ile Asp Ser Asn Val Ala Ile Asp Leu Ser			
370	375	380	

Asn Lys Ala Ser Leu Ala Phe Leu Gln Lys His Leu Gly Leu His Lys
 385 390 395 400

Asp Phe Asp Gln Trp Asp Cys Leu Ile Glu Gly Asp Asp Glu Asn Leu
 405 410 415

Ile Pro Gly Thr Asn Ile Asn Thr Thr Asn Gln His Ile Met Leu Gln
 420 425 430

Asn Ser Ser Gly Ile Glu Lys Tyr Asn
 435 440

<210> 127
 <211> 1758
 <212> DNA
 <213> human organism

<400> 127
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 ctcagctgtg aaaaatgtga ttaagttgag cctcgagatc tcccttttcc tcaataaact 480
 cctgggtgctg ggtgtgtcgg aatcctcaat ccacatcatt ggtgttagcc tggggggcca 540
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gagaaacaag gacaccaaca tcgagggttac cttccttagc agtaacatca cctcttcatc	1140
taagatcacc atacctaagc agcaacgcta tgggaaagga atcatagccc atgccacccc	1200
acaatgccag ataaaccaag tgaaattcaa gtttcagtct tccaaccgag tttggaaaaa	1260
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cctgaagata gcctgtgtgt agtttaacct gggcaggaca catctccctg catttttttt	1440
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tactactaag gagaaaagca aagctctttc ttattttcct cataatcagc taccctggag	1560
gggagggaga actcatttta cagaacttgg tttcctttgc cgatcttatg tacataccca	1620
tttttagcttt cccatgcata cttactgca cttgctttat ctccttgggc attcgtactt	1680
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aaaaaaaaa aaaaaaaaa	1758

<210> 128
 <211> 456
 <212> PRT
 <213> human organism

<400> 128

Met	Pro	Pro	Gly	Pro	Trp	Glu	Ser	Cys	Phe	Trp	Val	Gly	Gly	Leu	Ile
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Leu	Trp	Leu	Ser	Val	Gly	Ser	Ser	Gly	Asp	Ala	Pro	Pro	Thr	Pro	Gln
		20						25					30		

Pro	Lys	Cys	Ala	Asp	Phe	Gln	Ser	Ala	Asn	Leu	Phe	Glu	Gly	Thr	Asp
		35					40					45			

Leu	Lys	Val	Gln	Phe	Leu	Leu	Phe	Val	Pro	Ser	Asn	Pro	Ser	Cys	Gly
	50					55					60				

Gln	Leu	Val	Glu	Gly	Ser	Ser	Asp	Leu	Gln	Asn	Ser	Gly	Phe	Asn	Ala
65					70					75				80	

Thr	Leu	Gly	Thr	Lys	Leu	Ile	Ile	His	Gly	Phe	Arg	Val	Leu	Gly	Thr
				85					90					95	

Lys Pro Ser Trp Ile Asp Thr Phe Ile Arg Thr Leu Leu Arg Ala Thr
100 105 110

Asn Ala Asn Val Ile Ala Val Asp Trp Ile Tyr Gly Ser Thr Gly Val
115 120 125

Tyr Phe Ser Ala Val Lys Asn Val Ile Lys Leu Ser Leu Glu Ile Ser
130 135 140

Leu Phe Leu Asn Lys Leu Leu Val Leu Gly Val Ser Glu Ser Ser Ile
145 150 155 160

His Ile Ile Gly Val Ser Leu Gly Ala His Val Gly Gly Met Val Gly
165 170 175

Gln Leu Phe Gly Gly Gln Leu Gly Gln Ile Thr Gly Leu Asp Pro Ala
180 185 190

Gly Pro Glu Tyr Thr Arg Ala Ser Val Glu Glu Arg Leu Asp Ala Gly
195 200 205

Asp Ala Leu Phe Val Glu Ala Ile His Thr Asp Thr Asp Asn Leu Gly
210 215 220

Ile Arg Ile Pro Val Gly His Val Asp Tyr Phe Val Asn Gly Gly Gln
225 230 235 240

Asp Gln Pro Gly Cys Pro Thr Phe Phe Tyr Ala Gly Tyr Ser Tyr Leu
245 250 255

Ile Cys Asp His Met Arg Ala Val His Leu Tyr Ile Ser Ala Leu Glu
260 265 270

Asn Ser Cys Pro Leu Met Ala Phe Pro Cys Ala Ser Tyr Lys Ala Phe
275 280 285

Leu Ala Gly Arg Cys Leu Asp Cys Phe Asn Pro Phe Leu Leu Ser Cys
290 295 300

Pro Arg Ile Gly Leu Val Glu Gln Gly Gly Val Lys Ile Glu Pro Leu
305 310 315 320

Pro Lys Glu Val Lys Val Tyr Leu Leu Thr Thr Ser Ser Ala Pro Tyr
 325 330 335

Cys Met His His Ser Leu Val Glu Phe His Leu Lys Glu Leu Arg Asn
 340 345 350

Lys Asp Thr Asn Ile Glu Val Thr Phe Leu Ser Ser Asn Ile Thr Ser
 355 360 365

Ser Ser Lys Ile Thr Ile Pro Lys Gln Gln Arg Tyr Gly Lys Gly Ile
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Ile Ala His Ala Thr Pro Gln Cys Gln Ile Asn Gln Val Lys Phe Lys
 385 390 395 400

Phe Gln Ser Ser Asn Arg Val Trp Lys Lys Asp Arg Thr Thr Ile Ile
 405 410 415

Gly Lys Phe Cys Thr Ala Leu Leu Pro Val Asn Asp Arg Glu Lys Met
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35 40 45

Gln Lys Val Ala Phe Asp Phe Ala Ala Arg Glu Met Ala Pro Asn Met
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Ala Glu Trp Asp Gln Lys Glu Leu Phe Pro Val Asp Val Met Arg Lys
65 70 75 80

Ala Ala Gln Leu Gly Phe Gly Gly Val Tyr Ile Gln Thr Asp Val Gly
85 90 95

Gly Ser Gly Leu Ser Arg Leu Asp Thr Ser Val Ile Phe Glu Ala Leu
100 105 110

Ala Thr Gly Cys Thr Ser Thr Thr Ala Tyr Ile Ser Ile His Asn Met
115 120 125

Cys Ala Trp Met Ile Asp Ser Phe Gly Asn Glu Glu Gln Arg His Lys
130 135 140

Phe Cys Pro Pro Leu Cys Thr Met Glu Lys Phe Ala Ser Tyr Cys Leu
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Thr Glu Pro Gly Ser Gly Ser Asp Ala Ala Ser Leu Leu Thr Ser Ala
165 170 175

Lys Lys Gln Gly Asp His Tyr Ile Leu Asn Gly Ser Lys Ala Phe Ile
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Pro Gly Leu Ser Phe Gly Lys Lys Glu Lys Lys Val Gly Trp Asn Ser
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Gln Pro Thr Arg Ala Val Ile Phe Glu Asp Cys Ala Val Pro Val Ala
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Leu Asn Gly Gly Arg Ile Asn Ile Ala Ser Cys Ser Leu Gly Ala Ala
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His Ala Ser Val Ile Leu Thr Arg Asp His Leu Asn Val Arg Lys Gln
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Asp Met Ala Thr Arg Leu Val Ala Ala Arg Leu Met Val Arg Asn Ala
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<400> 132

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Leu Leu Lys His Val Val Leu Leu Leu Ser Arg Ser Lys Ser Thr Arg
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Gly Glu Trp Arg Arg Met Leu Thr Ser Glu Gly Leu Arg Cys Val Trp
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Lys Ser Phe Leu Leu Asp Ala Tyr Lys Gln Val Lys Leu Gly Glu Asp
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Ala Pro Asn Ser Ser Val Val His Val Ser Ser Thr Glu Gly Gly Asp
85 90 95

Asn Ser Gly Asn Gly Thr Gln Glu Lys Ile Ala Glu Gly Ala Thr Cys
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115 120 125

Gly Ser Ala Thr Xaa Pro Pro Phe Thr Ser Gln Leu Pro Ala Phe Arg
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Lys Leu Val Glu Glu Phe Ser Ser Val Ala Asp Phe Leu Leu Val Tyr
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Ile Asp Glu Ala His Pro Ser Asp Gly Trp Ala Ile Pro Gly Asp Ser
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Ser Leu Ser Phe Glu Val Lys Lys His Gln Asn Gln Glu Asp Arg Cys
 180 185 190

Ala Ala Ala Gln Gln Leu Leu Glu Arg Phe Ser Leu Pro Pro Gln Cys
 195 200 205

Arg Val Val Ala Asp Arg Met Asp Asn Asn Ala Asn Ile Ala Tyr Gly
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Val Ala Phe Glu Arg Val Cys Ile Val Gln Arg Gln Lys Ile Ala Tyr
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Gly Thr Trp Asp Lys Val Ser Val Ser Ile Val Gly Thr Arg Gly Glu
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Ser Pro Pro Leu Pro Leu Asp Asn Leu Gly Lys Glu Phe Thr Ala Gly
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Ala Glu Glu Asp Phe Gln Val Thr Leu Pro Glu Asp Val Gly Arg Val
50           55           60

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Leu Leu Leu Arg Val His Lys Ala Pro Pro Val Leu Pro Leu Leu Gly
65           70           75           80

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Pro Leu Ala Pro Asp Ala Trp Phe Cys Arg Trp Phe Gln Leu Thr Pro
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Pro Arg Gly Gly His Leu Leu Phe Pro Cys Tyr Gln Trp Leu Glu Gly
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Ala Gly Thr Leu Val Leu Gln Glu Gly Thr Ala Lys Val Ser Trp Ala
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Asp His His Pro Val Leu Gln Gln Gln Arg Gln Glu Glu Leu Gln Ala
130 135 140

Arg Gln Glu Met Tyr Gln Trp Lys Ala Tyr Asn Pro Gly Trp Pro His
145 150 155 160

Cys Leu Asp Glu Lys Thr Val Glu Asp Leu Glu Leu Asn Ile Lys Tyr
165 170 175

Ser Thr Ala Lys Asn Ala Asn Phe Tyr Leu Gln Ala Gly Ser Ala Phe
180 185 190

Ala Glu Met Lys Ile Lys Gly Leu Leu Asp Arg Lys Gly Leu Trp Arg
195 200 205

Ser Leu Asn Glu Met Lys Arg Ile Phe Asn Phe Arg Arg Thr Pro Ala
210 215 220

Ala Glu His Ala Phe Glu His Trp Gln Glu Asp Ala Phe Phe Ala Ser
225 230 235 240

Gln Phe Leu Asn Gly Leu Asn Pro Val Leu Ile Arg Arg Cys His Tyr
245 250 255

Leu Pro Lys Asn Phe Pro Val Thr Asp Ala Met Val Ala Ser Leu Leu
260 265 270

Gly Pro Gly Thr Ser Leu Gln Ala Glu Leu Glu Lys Gly Ser Leu Phe
275 280 285

Leu Val Asp His Gly Ile Leu Ser Gly Ile Gln Thr Asn Val Ile Asn
290 295 300

Gly Lys Pro Gln Phe Ser Ala Ala Pro Met Thr Leu Leu Tyr Gln Ser
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Pro Gly Cys Gly Pro Leu Leu Pro Leu Ala Ile Gln Leu Ser Gln Thr
325 330 335

Pro Gly Pro Asn Ser Pro Ile Phe Leu Pro Thr Asp Asp Lys Trp Asp
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Trp Leu Leu Ala Lys Thr Trp Val Arg Asn Ala Glu Phe Ser Phe His
355 360 365

Glu Ala Leu Thr His Leu Leu His Ser His Leu Leu Pro Glu Val Phe
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Thr Leu Ala Thr Leu Arg Gln Leu Pro His Cys His Pro Leu Phe Lys
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Leu Leu Ile Pro His Thr Arg Tyr Thr Leu His Ile Asn Thr Leu Ala
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Arg Glu Leu Leu Ile Val Pro Gly Gln Val Val Asp Arg Ser Thr Gly
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Leu Asn Tyr Ser Leu Leu Cys Leu Pro Glu Asp Ile Arg Thr Arg Gly
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Val Glu Asp Ile Pro Gly Tyr Tyr Tyr Arg Asp Asp Gly Met Gln Ile
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Trp Gly Ala Val Glu Arg Phe Val Ser Glu Ile Ile Gly Ile Tyr Tyr
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Pro Ser Asp Glu Ser Val Gln Asp Asp Arg Glu Leu Gln Ala Trp Val
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Arg Glu Ile Phe Ser Lys Gly Phe Leu Asn Gln Glu Ser Ser Gly Ile
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Pro Ser Ser Leu Glu Thr Arg Glu Ala Leu Val Gln Tyr Val Thr Met
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Val Ile Phe Thr Cys Ser Ala Lys His Ala Ala Val Ser Ala Gly Gln
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Phe Asp Ser Cys Ala Trp Met Pro Asn Leu Pro Pro Ser Met Gln Leu
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Pro Pro Pro Thr Ser Lys Gly Leu Ala Thr Cys Glu Gly Phe Ile Ala
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Thr Leu Pro Pro Val Asn Ala Thr Cys Asp Val Ile Leu Ala Leu Trp
595 600 605

Leu Leu Ser Lys Glu Pro Gly Asp Gln Arg Pro Leu Gly Thr Tyr Pro
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Asp Glu His Phe Thr Glu Glu Ala Pro Arg Arg Ser Ile Ala Thr Phe
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Gln Ser Arg Leu Ala Gln Ile Ser Arg Gly Ile Gln Glu Arg Asn Arg
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Ser Val Ser Ile
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Pro Gly Pro Ala Pro Phe Leu Ala Pro Val Ala Ala Pro Val Gly Gly
35 40 45

Ile Ser Phe His Leu Gln Ile Gly Leu Ser Arg Glu Pro Val Leu Leu
50 55 60

Leu Gln Asp Ser Ser Gly Asp Tyr Ser Leu Ala His Val Arg Glu Met
65 70 75 80

Ala Cys Ser Ile Val Asp Gln Lys Phe Pro Glu Cys Gly Phe Tyr Gly
85 90 95

Met Tyr Asp Lys Ile Leu Leu Phe Arg His Asp Pro Thr Ser Glu Asn
100 105 110

Ile Leu Gln Leu Val Lys Ala Ala Ser Asp Ile Gln Glu Gly Asp Leu
115 120 125

Ile Glu Val Val Leu Ser Arg Ser Ala Thr Phe Glu Asp Phe Gln Ile
130 135 140

Arg Pro His Ala Leu Phe Val His Ser Tyr Arg Ala Pro Ala Phe Cys
145 150 155 160

Asp His Cys Gly Glu Met Leu Trp Gly Leu Val Arg Gln Gly Leu Lys
165 170 175

Cys Glu Gly Cys Gly Leu Asn Tyr His Lys Arg Cys Ala Phe Lys Ile
180 185 190

Pro Asn Asn Cys Ser Gly Val Arg Arg Arg Arg Leu Ser Asn Val Ser
195 200 205

Leu Thr Gly Val Ser Thr Ile Arg Thr Ser Ser Ala Glu Leu Ser Thr
210 215 220

Ser Ala Pro Asp Glu Pro Leu Leu Gln Lys Ser Pro Ser Glu Ser Phe
225 230 235 240

Ile Gly Arg Glu Lys Arg Ser Asn Ser Gln Ser Tyr Ile Gly Arg Pro
245 250 255

Ile His Leu Asp Lys Ile Leu Met Ser Lys Val Lys Val Pro His Thr
260 265 270

Phe Val Ile His Ser Tyr Thr Arg Pro Thr Val Cys Gln Tyr Cys Lys
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Lys Leu Leu Lys Gly Leu Phe Arg Gln Gly Leu Gln Cys Lys Asp Cys
290 295 300

Arg Phe Asn Cys His Lys Arg Cys Ala Pro Lys Val Pro Asn Asn Cys
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Leu Gly Glu Val Thr Ile Asn Gly Asp Leu Leu Ser Pro Gly Ala Glu
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Ser Asp Val Val Met Glu Glu Gly Ser Asp Asp Asn Asp Ser Glu Arg
340 345 350

Asn Ser Gly Leu Met Asp Asp Met Glu Glu Ala Met Val Gln Asp Ala
355 360 365

Glu Met Ala Met Ala Glu Cys Gln Asn Asp Ser Gly Glu Met Gln Asp
370 375 380

Pro Asp Pro Asp His Glu Asp Ala Asn Arg Thr Ile Ser Pro Ser Thr
385 390 395 400

Ser Asn Asn Ile Pro Leu Met Arg Val Val Gln Ser Val Lys His Thr
405 410 415

Lys Arg Lys Ser Ser Thr Val Met Lys Glu Gly Trp Met Val His Tyr
420 425 430

Thr Ser Lys Asp Thr Leu Arg Lys Arg His Tyr Trp Arg Leu Asp Ser
435 440 445

Lys Cys Ile Thr Leu Phe Gln Asn Asp Thr Gly Ser Arg Tyr Tyr Lys

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Ala Asn Val Val Tyr Tyr Val Gly Glu Asn Val Val Asn Pro Ser Ser				
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Pro Ser Pro Asn Asn Ser Val Leu Thr Ser Gly Val Gly Ala Asp Val				
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Ala Arg Met Trp Glu Ile Ala Ile Gln His Ala Leu Met Pro Val Ile				
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Pro Lys Gly Ser Ser Val Gly Thr Gly Thr Asn Leu His Arg Asp Ile				
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Ser Val Ser Ile Ser Val Ser Asn Cys Gln Ile Gln Glu Asn Val Asp				
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Ile Ser Thr Val Tyr Gln Ile Phe Pro Asp Glu Val Leu Gly Ser Gly				
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Gln Phe Gly Ile Val Tyr Gly Gly Lys His Arg Lys Thr Gly Arg Asp				
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Val Ala Ile Lys Ile Ile Asp Lys Leu Arg Phe Pro Thr Lys Gln Glu				
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Ser Gln Leu Arg Asn Glu Val Ala Ile Leu Gln Asn Leu His His Pro				
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Gly Val Val Asn Leu Glu Cys Met Phe Glu Thr Pro Glu Arg Val Phe				
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Val Val Met Glu Lys Leu His Gly Asp Met Leu Glu Met Ile Leu Ser				
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Ser Glu Lys Gly Arg Leu Pro Glu His Ile Thr Lys Phe Leu Ile Thr				
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Gln Ile Leu Val Ala Leu Arg His Leu His Phe Lys Asn Ile Val His
690 695 700

Cys Asp Leu Lys Pro Glu Asn Val Leu Leu Ala Ser Ala Asp Pro Phe
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Pro Gln Val Lys Leu Cys Asp Phe Gly Phe Ala Arg Ile Ile Gly Glu
725 730 735

Lys Ser Phe Arg Arg Ser Val Val Gly Thr Pro Ala Tyr Leu Ala Pro
740 745 750

Glu Val Leu Arg Asn Lys Gly Tyr Asn Arg Ser Leu Asp Met Trp Ser
755 760 765

Val Gly Val Ile Ile Tyr Val Ser Leu Ser Gly Thr Phe Pro Phe Asn
770 775 780

Glu Asp Glu Asp Ile His Asp Gln Ile Gln Asn Ala Ala Phe Met Tyr
785 790 795 800

Pro Pro Asn Pro Trp Lys Glu Ile Ser His Glu Ala Ile Asp Leu Ile
805 810 815

Asn Asn Leu Leu Gln Val Lys Met Arg Lys Arg Tyr Ser Val Asp Lys
820 825 830

Thr Leu Ser His Pro Trp Leu Gln Asp Tyr Gln Thr Trp Leu Asp Leu
835 840 845

Arg Glu Leu Glu Cys Lys Ile Gly Glu Arg Tyr Ile Thr His Glu Ser
850 855 860

Asp Asp Leu Arg Trp Glu Lys Tyr Ala Gly Glu Gln Arg Leu Gln Tyr
865 870 875 880

Pro Thr His Leu Ile Asn Pro Ser Ala Ser His Ser Asp Thr Pro Glu
885 890 895

Thr Glu Glu Thr Glu Met Lys Ala Leu Gly Glu Arg Val Ser Ile Leu
900 905 910

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 <213> human organism

<400> 138

Met	Arg	Gly	Ser	Gly	Pro	Arg	Gly	Ala	Gly	His	Arg	Arg	Pro	Pro	Ser
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Gly	Gly	Gly	Asp	Thr	Pro	Ile	Thr	Pro	Ala	Ser	Leu	Ala	Gly	Cys	Tyr
			20					25					30		

Ser	Ala	Pro	Arg	Arg	Ala	Pro	Leu	Trp	Thr	Cys	Leu	Leu	Leu	Cys	Ala
		35					40					45			

Ala	Leu	Arg	Thr	Leu	Leu	Ala	Ser	Pro	Ser	Asn	Glu	Val	Asn	Leu	Leu
	50					55					60				

Asp	Ser	Arg	Thr	Val	Met	Gly	Asp	Leu	Gly	Trp	Ile	Ala	Phe	Pro	Lys
65					70				75					80	

Asn	Gly	Trp	Glu	Glu	Ile	Gly	Glu	Val	Asp	Glu	Asn	Tyr	Ala	Pro	Ile
			85					90						95	

His Thr Tyr Gln Val Cys Lys Val Met Glu Gln Asn Gln Asn Asn Trp
100 105 110

Leu Leu Thr Ser Trp Ile Ser Asn Glu Gly Ala Ser Arg Ile Phe Ile
115 120 125

Glu Leu Lys Phe Thr Leu Arg Asp Cys Asn Ser Leu Pro Gly Gly Leu
130 135 140

Gly Thr Cys Lys Glu Thr Phe Asn Met Tyr Tyr Phe Glu Ser Asp Asp
145 150 155 160

Gln Asn Gly Arg Asn Ile Lys Glu Asn Gln Tyr Ile Lys Ile Asp Thr
165 170 175

Ile Ala Ala Asp Glu Ser Phe Thr Glu Leu Asp Leu Gly Asp Arg Val
180 185 190

Met Lys Leu Asn Thr Glu Val Arg Asp Val Gly Pro Leu Ser Lys Lys
195 200 205

Gly Phe Tyr Leu Ala Phe Gln Asp Val Gly Ala Cys Ile Ala Leu Val
210 215 220

Ser Val Arg Val Tyr Tyr Lys Lys Cys Pro Ser Val Val Arg His Leu
225 230 235 240

Ala Val Phe Pro Asp Thr Ile Thr Gly Ala Asp Ser Ser Gln Leu Leu
245 250 255

Glu Val Ser Gly Ser Cys Val Asn His Ser Val Thr Asp Glu Pro Pro
260 265 270

Lys Met His Cys Ser Ala Glu Gly Glu Trp Leu Val Pro Ile Gly Lys
275 280 285

Cys Met Cys Lys Ala Gly Tyr Glu Glu Lys Asn Gly Thr Cys Gln Val
290 295 300

Cys Arg Pro Gly Phe Phe Lys Ala Ser Pro His Ile Gln Ser Cys Gly
305 310 315 320

Lys Cys Pro Pro His Ser Tyr Thr His Glu Glu Ala Ser Thr Ser Cys

325

330

335

Val Cys Glu Lys Asp Tyr Phe Arg Arg Glu Ser Asp Pro Pro Thr Met
 340 345 350

Ala Cys Thr Arg Pro Pro Ser Ala Pro Arg Asn Ala Ile Ser Asn Val
 355 360 365

Asn Glu Thr Ser Val Phe Leu Glu Trp Ile Pro Pro Ala Asp Thr Gly
 370 375 380

Gly Arg Lys Asp Val Ser Tyr Tyr Ile Ala Cys Lys Lys Cys Asn Ser
 385 390 395 400

His Ala Gly Val Cys Glu Glu Cys Gly Gly His Val Arg Tyr Leu Pro
 405 410 415

Arg Gln Ser Gly Leu Lys Asn Thr Ser Val Met Met Val Asp Leu Leu
 420 425 430

Ala His Thr Asn Tyr Thr Phe Glu Ile Glu Ala Val Asn Gly Val Ser
 435 440 445

Asp Leu Ser Pro Gly Ala Arg Gln Tyr Val Ser Val Asn Val Thr Thr
 450 455 460

Asn Gln Ala Ala Pro Ser Pro Val Thr Asn Val Lys Lys Gly Lys Ile
 465 470 475 480

Ala Lys Asn Ser Ile Ser Leu Ser Trp Gln Glu Pro Asp Arg Pro Asn
 485 490 495

Gly Ile Ile Leu Glu Tyr Glu Ile Lys His Phe Glu Lys Asp Gln Glu
 500 505 510

Thr Ser Tyr Thr Ile Ile Lys Ser Lys Glu Thr Thr Ile Thr Ala Glu
 515 520 525

Gly Leu Lys Pro Ala Ser Val Tyr Val Phe Gln Ile Arg Ala Arg Thr
 530 535 540

Ala Ala Gly Tyr Gly Val Phe Ser Arg Arg Phe Glu Phe Glu Thr Thr
 545 550 555 560

Pro Val Phe Ala Ala Ser Ser Asp Gln Ser Gln Ile Pro Val Ile Ala
565 570 575

Val Ser Val Thr Val Gly Val Ile Leu Leu Ala Val Val Ile Gly Val
580 585 590

Leu Leu Ser Gly Ser Cys Cys Glu Cys Gly Cys Gly Arg Ala Ser Ser
595 600 605

Leu Cys Ala Val Ala His Pro Ile Leu Ile Trp Arg Cys Gly Tyr Ser
610 615 620

Lys Ala Lys Gln Asp Pro Glu Glu Glu Lys Met His Phe His Asn Gly
625 630 635 640

His Ile Lys Leu Pro Gly Val Arg Thr Tyr Ile Asp Pro His Thr Tyr
645 650 655

Glu Asp Pro Asn Gln Ala Val His Glu Phe Ala Lys Glu Ile Glu Ala
660 665 670

Ser Cys Ile Thr Ile Glu Arg Val Ile Gly Ala Gly Glu Phe Gly Glu
675 680 685

Val Cys Ser Gly Arg Leu Lys Leu Pro Gly Lys Arg Glu Leu Pro Val
690 695 700

Ala Ile Lys Thr Leu Lys Val Gly Tyr Thr Glu Lys Gln Arg Arg Asp
705 710 715 720

Phe Leu Gly Glu Ala Ser Ile Met Gly Gln Phe Asp His Pro Asn Ile
725 730 735

Ile His Leu Glu Gly Val Val Thr Lys Ser Lys Pro Val Met Ile Val
740 745 750

Thr Glu Tyr Met Glu Asn Gly Ser Leu Asp Thr Phe Leu Lys Lys Asn
755 760 765

Asp Gly Gln Phe Thr Val Ile Gln Leu Val Gly Met Leu Arg Gly Ile
770 775 780

Ser Ala Gly Met Lys Tyr Leu Ser Asp Met Gly Tyr Val His Arg Asp
785 790 795 800

Leu Ala Ala Arg Asn Ile Leu Ile Asn Ser Asn Leu Val Cys Lys Val
805 810 815

Ser Asp Phe Gly Leu Ser Arg Val Leu Glu Asp Asp Pro Glu Ala Ala
820 825 830

Tyr Thr Thr Arg Gly Gly Lys Ile Pro Ile Arg Trp Thr Ala Pro Glu
835 840 845

Ala Ile Ala Phe Arg Lys Phe Thr Ser Ala Ser Asp Val Trp Ser Tyr
850 855 860

Gly Ile Val Met Trp Glu Val Val Ser Tyr Gly Glu Arg Pro Tyr Trp
865 870 875 880

Glu Met Thr Asn Gln Asp Val Ile Lys Ala Val Glu Glu Gly Tyr Arg
885 890 895

Leu Pro Ser Pro Met Asp Cys Pro Ala Ala Leu Tyr Gln Leu Met Leu
900 905 910

Asp Cys Trp Gln Lys Glu Arg Asn Ser Arg Pro Lys Phe Asp Glu Ile
915 920 925

Val Asn Met Leu Asp Lys Leu Ile Arg Asn Pro Ser Ser Leu Lys Thr
930 935 940

Leu Val Asn Ala Ser Cys Arg Val Ser Asn Leu Leu Ala Glu His Ser
945 950 955 960

Pro Leu Gly Ser Gly Ala Tyr Arg Ser Val Gly Glu Trp Leu Glu Ala
965 970 975

Ile Lys Met Gly Arg Tyr Thr Glu Ile Phe Met Glu Asn Gly Tyr Ser
980 985 990

Ser Met Asp Ala Val Ala Gln Val Thr Leu Glu Asp Leu Arg Arg Leu
995 1000 1005

Gly	Val	Thr	Leu	Val	Gly	His	Gln	Lys	Lys	Ile	Met	Asn	Ser	Leu
1010						1015					1020			

Gln	Glu	Met	Lys	Val	Gln	Leu	Val	Asn	Gly	Met	Val	Pro	Leu
1025						1030					1035		

<210> 139
 <211> 1282
 <212> DNA
 <213> human organism

<400> 139

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tgctcctgct cttggtgcag ctgctgcgct tcctgagggc tgacggcgac ctgacgctac	180
tatgggccga gtggcagggg cgacgcccag aatgggagct gactgatatg gtggtgtggg	240
tgactggagc ctcgagtgga attggtgagg agctggctta ccagttgtct aaactaggag	300
tttctcttgt gctgtcagcc agaagagtgc atgagctgga aagggtgaaa agaagatgcc	360
tagagaatgg caatttaaaa gaaaaagata tacttgtttt gcccttgac ctgaccgaca	420
ctggttccca tgaagcggct accaaagctg ttctccagga gtttggtaga atcgacattc	480
tggtaacaa tgggtggaatg tcccagcgtt ctctgtgcat ggataccagc ttggatgtct	540
acagaaagct aatagagctt aactacttag ggacgggtgc cttgacaaaa tgtgttctgc	600
ctcacatgat cgagaggaag caaggaaaga ttgttactgt gaatagcatc ctgggtatca	660
tatctgtacc tctttccatt ggatactgtg ctagcaagca tgctctccgg ggttttttta	720
atggccttcg aacagaactt gccacatacc caggtataat agtttctaac atttgcccag	780
gacctgtgca atcaaatatt gtggagaatt ccctagctgg agaagtcaca aagactatag	840
gcaataatgg agaccagtcc cacaagatga caaccagtcg ttgtgtgcgg ctgatgttaa	900
tcagcatggc caatgatttg aaagaagttt ggatctcaga acaacctttc ttgttagtaa	960
catatttgtg gcaatacatg ccaacctggg cctgggtggat aaccaacaag atggggaaga	1020
aaaggattga gaactttaag agtgggtgtg atgcagactc ttcttatttt aaaatcttta	1080
agacaaaaca tgactgaaaa gagcacctgt acttttcaag cactggagg gagaaatgga	1140
aaacatgaaa acagcaatct tcttatgctt ctgaataatc aaagactaat ttgtgatttt	1200
actttttaat agatatgact ttgcttccaa catggaatga aataaaaaat aaataataaa	1260
agattgccat gaatcttgca aa	1282

<210> 140
<211> 339
<212> PRT
<213> human organism

<400> 140

Met Asn Trp Glu Leu Leu Leu Trp Leu Leu Val Leu Cys Ala Leu Leu
1 5 10 15

Leu Leu Leu Val Gln Leu Leu Arg Phe Leu Arg Ala Asp Gly Asp Leu
20 25 30

Thr Leu Leu Trp Ala Glu Trp Gln Gly Arg Arg Pro Glu Trp Glu Leu
35 40 45

Thr Asp Met Val Val Trp Val Thr Gly Ala Ser Ser Gly Ile Gly Glu
50 55 60

Glu Leu Ala Tyr Gln Leu Ser Lys Leu Gly Val Ser Leu Val Leu Ser
65 70 75 80

Ala Arg Arg Val His Glu Leu Glu Arg Val Lys Arg Arg Cys Leu Glu
85 90 95

Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu Asp Leu
100 105 110

Thr Asp Thr Gly Ser His Glu Ala Ala Thr Lys Ala Val Leu Gln Glu
115 120 125

Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly Met Ser Gln Arg
130 135 140

Ser Leu Cys Met Asp Thr Ser Leu Asp Val Tyr Arg Lys Leu Ile Glu
145 150 155 160

Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr Lys Cys Val Leu Pro His
165 170 175

Met Ile Glu Arg Lys Gln Gly Lys Ile Val Thr Val Asn Ser Ile Leu
180 185 190

Gly Ile Ile Ser Val Pro Leu Ser Ile Gly Tyr Cys Ala Ser Lys His
 195 200 205

Ala Leu Arg Gly Phe Phe Asn Gly Leu Arg Thr Glu Leu Ala Thr Tyr
 210 215 220

Pro Gly Ile Ile Val Ser Asn Ile Cys Pro Gly Pro Val Gln Ser Asn
 225 230 235 240

Ile Val Glu Asn Ser Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn
 245 250 255

Asn Gly Asp Gln Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu
 260 265 270

Met Leu Ile Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu
 275 280 285

Gln Pro Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp
 290 295 300

Ala Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe
 305 310 315 320

Lys Ser Gly Val Asp Ala Asp Ser Ser Tyr Phe Lys Ile Phe Lys Thr
 325 330 335

Lys His Asp

<210> 141
 <211> 1740
 <212> DNA
 <213> human organism

<400> 141
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 ggaggaggtg gcggcgcgtc ctccccgtct gcagccgctg ccgccgccgc cgctgtttcg 180
 tcctcagccc ccgagatcgt ggtgtctaag cccgagcaca acaactcaa caacctggcg 240
 ctctatggaa ccggcgggcg aggcagcact ggaggaggcg gcggcggtgg cgggagcggg 300
 cacggcagca gcagtggcac caagtccagc aaaaagaaaa accagaacat cggctacaag 360

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ggagcagatg actggagaat agccatgact tatgagcgta ttttcttcat ctgcttgga 660
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caattaagaa gtgtaaaaat ggagcagagg aaactgaatg accaagcaaa cactttgggtg 1440
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gaagacttcg agaagaggat tgttacctg gaaacaaaac tagagacttt gattggtagc 1560
atccacgccc tccctgggct cataagccag accatcaggc agcagcagag agatttcatt 1620
gaggctcaga tggagageta cgacaagcac gtcacttaca atgctgagcg gtcccgggtcc 1680
tcgtccagga ggcggcggtc ctcttcacac gcaccaccaa cttcatcaga gagtagctag 1740

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<210> 142

<211> 579

<212> PRT

<213> human organism

<400> 142

Met Ser Ser Cys Arg Tyr Asn Gly Gly Val Met Arg Pro Leu Ser Asn
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Leu Ser Ala Ser Arg Arg Asn Leu His Glu Met Asp Ser Glu Ala Gln
20 25 30

Pro Leu Gln Pro Pro Ala Ser Val Gly Gly Gly Gly Gly Ala Ser Ser
35 40 45

Pro Ser Ala Ala Ala Ala Ala Ala Ala Ala Val Ser Ser Ser Ala Pro
50 55 60

Glu Ile Val Val Ser Lys Pro Glu His Asn Asn Ser Asn Asn Leu Ala
65 70 75 80

Leu Tyr Gly Thr Gly Gly Gly Gly Ser Thr Gly Gly Gly Gly Gly Gly
85 90 95

Gly Gly Ser Gly His Gly Ser Ser Ser Gly Thr Lys Ser Ser Lys Lys
100 105 110

Lys Asn Gln Asn Ile Gly Tyr Lys Leu Gly His Arg Arg Ala Leu Phe
115 120 125

Glu Lys Arg Lys Arg Leu Ser Asp Tyr Ala Leu Ile Phe Gly Met Phe
130 135 140

Gly Ile Val Val Met Val Ile Glu Thr Glu Leu Ser Trp Gly Ala Tyr
145 150 155 160

Asp Lys Ala Ser Leu Tyr Ser Leu Ala Leu Lys Cys Leu Ile Ser Leu
165 170 175

Ser Thr Ile Ile Leu Leu Gly Leu Ile Ile Val Tyr His Ala Arg Glu
180 185 190

Ile Gln Leu Phe Met Val Asp Asn Gly Ala Asp Asp Trp Arg Ile Ala
195 200 205

Met Thr Tyr Glu Arg Ile Phe Phe Ile Cys Leu Glu Ile Leu Val Cys
210 215 220

Ala Ile His Pro Ile Pro Gly Asn Tyr Thr Phe Thr Trp Thr Ala Arg
225 230 235 240

Leu Ala Phe Ser Tyr Ala Pro Ser Thr Thr Thr Ala Asp Val Asp Ile
245 250 255

Ile Leu Ser Ile Pro Met Phe Leu Arg Leu Tyr Leu Ile Ala Arg Val
260 265 270

Met Leu Leu His Ser Lys Leu Phe Thr Asp Ala Ser Ser Arg Ser Ile
275 280 285

Gly Ala Leu Asn Lys Ile Asn Phe Asn Thr Arg Phe Val Met Lys Thr
290 295 300

Leu Met Thr Ile Cys Pro Gly Thr Val Leu Leu Val Phe Ser Ile Ser
305 310 315 320

Leu Trp Ile Ile Ala Ala Trp Thr Val Arg Ala Cys Glu Arg Tyr His
325 330 335

Asp Gln Gln Asp Val Thr Ser Asn Phe Leu Gly Ala Met Trp Leu Ile
340 345 350

Ser Ile Thr Phe Leu Ser Ile Gly Tyr Gly Asp Met Val Pro Asn Thr
355 360 365

Tyr Cys Gly Lys Gly Val Cys Leu Leu Thr Gly Ile Met Gly Ala Gly
370 375 380

Cys Thr Ala Leu Val Val Ala Val Val Ala Arg Lys Leu Glu Leu Thr
385 390 395 400

Lys Ala Glu Lys His Val His Asn Phe Met Met Asp Thr Gln Leu Thr
405 410 415

Lys Arg Val Lys Asn Ala Ala Ala Asn Val Leu Arg Glu Thr Trp Leu
420 425 430

Ile Tyr Lys Asn Thr Lys Leu Val Lys Lys Ile Asp His Ala Lys Val
435 440 445

Arg Lys His Gln Arg Lys Phe Leu Gln Ala Ile His Gln Leu Arg Ser
450 455 460

Val Lys Met Glu Gln Arg Lys Leu Asn Asp Gln Ala Asn Thr Leu Val
 465 470 475 480

Asp Leu Ala Lys Thr Gln Asn Ile Met Tyr Asp Met Ile Ser Asp Leu
 485 490 495

Asn Glu Arg Ser Glu Asp Phe Glu Lys Arg Ile Val Thr Leu Glu Thr
 500 505 510

Lys Leu Glu Thr Leu Ile Gly Ser Ile His Ala Leu Pro Gly Leu Ile
 515 520 525

Ser Gln Thr Ile Arg Gln Gln Gln Arg Asp Phe Ile Glu Ala Gln Met
 530 535 540

Glu Ser Tyr Asp Lys His Val Thr Tyr Asn Ala Glu Arg Ser Arg Ser
 545 550 555 560

Ser Ser Arg Arg Arg Arg Ser Ser Ser Thr Ala Pro Pro Thr Ser Ser
 565 570 575

Glu Ser Ser

<210> 143
 <211> 1896
 <212> DNA
 <213> human organism

<400> 143
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 ctaaataag aggatgatga agatgaggac tccacagtat tcgacatcaa atacagagtg 480
 tccttgccgg ctgcactgag acgtcagctg ccagggtgcc agacgctact gacagttcct 540
 gtgccccac ctttcaccc cgacattgac cttccagcaa gatgcagtgg aaggcctgat 600

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gaaacaaaaa cgaacgttat gtataaaacc ccagctccat cgtgcgtgtc aggcattctgc 780
tcagactgtc actggcaagc tcgtttccac gtcaccacaa tggagtgtgt tctgccaccc 840
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gtccttgctg catttgagca gagcccacaa aaggcagctg ctgcccacgg ggagcctgtc 1560
aaacgagggc ccagtgggca attgaccaga cacacatgcc ctggctgggg gatcacacat 1620
gcgaacctgc agacaattcc agatacccaa ggccaggaag gccacgtga ggatgtcact 1680
caccctggag gagacttggg tggggtggca aatttctatt tggaggaaga gggtttccag 1740
gatggcagat gccagaagat ggtcctgatg tctgaggaag ggccacctag tttgacagga 1800
tgtgagaggc tcacaggttc ccatcacttc tccagccatt ccaagtcttg gtccttcctt 1860
tccccccgac agcccctgtt tctgtccagg ccctga 1896

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<210> 144
<211> 631
<212> PRT
<213> human organism

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<400> 144

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Met Arg Ala Val Pro Leu Pro Ala Pro Leu Leu Pro Leu Leu Leu Leu
1          5          10          15

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Ala Leu Leu Ala Ala Pro Ala Ala Arg Ala Ser Arg Ala Glu Ser Val
20 25 30

Ser Ala Pro Trp Pro Glu Pro Glu Arg Glu Ser Arg Pro Pro Pro Gly
35 40 45

Pro Gly Pro Gly Asn Thr Thr Arg Phe Gly Ser Gly Ala Ala Gly Gly
50 55 60

Ser Gly Ser Ser Ser Ser Asn Ser Ser Gly Asp Ala Leu Val Thr Arg
65 70 75 80

Ile Ser Ile Leu Leu Arg Asp Leu Pro Thr Leu Lys Ala Ala Val Ile
85 90 95

Val Ala Phe Ala Phe Thr Thr Leu Leu Ile Ala Cys Leu Leu Leu Arg
100 105 110

Val Phe Arg Ser Gly Lys Arg Leu Lys Lys Thr Arg Lys Tyr Asp Ile
115 120 125

Ile Thr Thr Pro Ala Glu Arg Val Glu Met Ala Pro Leu Asn Glu Glu
130 135 140

Asp Asp Glu Asp Glu Asp Ser Thr Val Phe Asp Ile Lys Tyr Arg Val
145 150 155 160

Ser Leu Pro Ala Ala Leu Arg Arg Gln Leu Pro Gly Cys Gln Thr Leu
165 170 175

Leu Thr Val Pro Val Pro Pro Pro Phe Ile Leu Asp Ile Asp Leu Pro
180 185 190

Ala Arg Cys Ser Gly Arg Pro Asp Gly Gly Ile Arg Pro Gly Lys Thr
195 200 205

Cys Phe Pro Ala Trp Trp His Pro Val Glu Ser Trp Ser Ala Ala Thr
210 215 220

Trp Gly Val Lys Asp Trp Thr Trp Lys Pro Ser Cys Val Gly Gly Val
225 230 235 240

Glu Thr Lys Thr Asn Val Met Tyr Lys Thr Pro Ala Pro Ser Cys Val

				245					250							255			
Ser	Gly	Ile	Cys	Ser	Asp	Cys	His	Trp	Gln	Ala	Arg	Phe	His	Val	Thr				
			260					265					270						
Thr	Met	Glu	Leu	Leu	Leu	Pro	Pro	Phe	Gly	His	Pro	Phe	Lys	Val	Pro				
		275					280					285							
Pro	Thr	Ser	Thr	Pro	His	Gly	Phe	Arg	Gln	Leu	Gln	Leu	Asn	Leu	Met				
	290					295					300								
Glu	Lys	Leu	Asp	Ser	Ser	Ala	Leu	Arg	Arg	Asn	Thr	Arg	Ala	Pro	Ser				
305					310					315					320				
Ala	Arg	Cys	Leu	Pro	Leu	Val	Leu	Ala	Glu	Met	Ala	Ala	Ala	Glu	Ser				
				325					330					335					
Asp	Leu	Pro	Asn	Pro	Trp	Trp	His	Phe	Ser	Ala	Thr	Gly	Ser	Pro	Ile				
			340					345					350						
Lys	Thr	Leu	Tyr	Thr	Gln	Thr	Met	Ser	Thr	Leu	Gly	Leu	Asp	Val	Phe				
		355					360					365							
Cys	Gly	Ala	Gly	Gln	Arg	Gly	Thr	Phe	Cys	Glu	Asp	Arg	Ala	Val	Thr				
	370					375					380								
Lys	Val	Leu	Gln	Gly	Ser	Ser	Phe	Ser	Lys	Gln	Leu	Arg	Trp	Lys	Pro				
385					390					395					400				
Ala	Leu	Glu	Ser	Gly	Phe	Pro	His	His	Leu	Arg	Leu	Leu	Arg	Glu	Cys				
				405					410					415					
Pro	Pro	Leu	Ser	Thr	His	Pro	Val	Arg	Leu	Ala	Arg	Ser	Asp	Ala	Arg				
			420					425					430						
Gly	Gln	Ala	Ser	Leu	Thr	Gly	Arg	Arg	Val	Phe	Arg	Arg	Pro	Arg	Gln				
		435					440					445							
Ser	Leu	His	Gly	Gly	Gly	Ser	Ala	Gly	Thr	Ala	Thr	Cys	Leu	Leu	Val				
	450					455					460								
Leu	Lys	Ile	Leu	Leu	Arg	Arg	His	Pro	His	Leu	Asp	Leu	Phe	Tyr	Lys				
465					470					475					480				

Ile Cys Leu Pro Cys Cys Ala Val Glu His Leu Arg Glu Ala Lys Arg
485 490 495

Ser Ser Val Thr Val Leu Ala Ser Phe Glu Gln Ser Pro Gln Lys Ala
500 505 510

Ala Ala Ala His Gly Glu Pro Val Lys Arg Gly Pro Ser Gly Gln Leu
515 520 525

Thr Arg His Thr Cys Pro Gly Trp Gly Ile Thr His Ala Asn Leu Gln
530 535 540

Thr Ile Pro Asp Thr Gln Gly Gln Glu Gly Pro Arg Glu Asp Val Thr
545 550 555 560

His Pro Gly Gly Asp Leu Asp Gly Val Ala Asn Phe Tyr Leu Glu Glu
565 570 575

Glu Gly Phe Gln Asp Gly Arg Cys Gln Lys Met Val Leu Met Ser Glu
580 585 590

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 Ser Ser Ser Arg Gly Pro Pro Pro Arg Ala Thr Arg Leu Pro Pro Pro
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 Gly Pro Leu Cys Ser Ser Phe Ser Thr Pro Ser Thr Pro Gln Glu Lys
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 Ser Pro Ser Gly Ser Phe His Phe Asp Tyr Glu Val Pro Leu Gly Arg
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 Gly Pro Ala Ser Ser Arg Ser Ala Ser Ser Ile Leu Cys Ser Ser Gly
 145 150 155 160
 Gly Gly Pro Asn Gly Ile Phe Ala Ser Pro Arg Arg Trp Leu Gln Gln
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 Arg Lys Phe Gln Ser Pro Pro Asp Ser Arg Gly His Pro Tyr Val Val
 180 185 190
 Trp Lys Ser Glu Gly Asp Phe Thr Trp Asn Ser Met Ser Gly Arg Ser
 195 200 205
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 210 215 220
 Ala Arg Leu Gln Glu Val Pro Phe Tyr Gln Leu Gln Gln Asp Cys Asp

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Lys Glu Phe Ile Pro Gln Ala Phe Gly Met Pro Leu Ser Gln Val Ile						
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Cys Cys Gln His Leu Glu Lys His Gly Leu Gln Thr Val Gly Ile Phe						
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Arg Val Gly Ser Ser Lys Lys Arg Val Arg Gln Leu Arg Glu Glu Phe						
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Val Ala Ala Leu Leu Lys Glu Phe Leu Arg Asp Met Pro Asp Pro Leu
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Leu Thr Arg Glu Leu Tyr Thr Ala Phe Ile Asn Thr Leu Leu Leu Glu
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Pro Glu Glu Gln Leu Gly Thr Leu Gln Leu Leu Ile Tyr Leu Leu Pro
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Pro Cys Asn Cys Asp Thr Leu His Arg Leu Leu Gln Phe Leu Ser Ile
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Val Ala Arg His Ala Asp Asp Asn Ile Ser Lys Asp Gly Gln Glu Val
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Thr Gly Asn Lys Met Thr Ser Leu Asn Leu Ala Thr Ile Phe Gly Pro
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Asn Leu Leu His Lys Gln Lys Ser Ser Asp Lys Glu Phe Ser Val Gln
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Ser Ser Ala Arg Ala Glu Glu Ser Thr Ala Ile Ile Ala Val Val Gln
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Lys Met Ile Glu Asn Tyr Glu Ala Leu Phe Met Val Pro Pro Asp Leu
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Gln Asn Glu Val Leu Ile Ser Leu Leu Glu Thr Asp Pro Asp Val Val
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Asp Tyr Leu Leu Arg Arg Lys Ala Ser Gln Ser Ser Ser Pro Asp Met
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Leu Gln Ser Glu Val Ser Phe Ser Val Gly Gly Arg His Ser Ser Thr
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Asp Ser Asn Lys Ala Ser Ser Gly Asp Ile Ser Pro Tyr Asp Asn Asn
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Ser Pro Val Leu Ser Glu Arg Ser Leu Leu Ala Met Gln Glu Asp Ala
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Ala Pro Gly Gly Ser Glu Lys Leu Tyr Arg Val Pro Gly Gln Phe Met
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Leu Val Gly His Leu Ser Ser Ser Lys Ser Arg Glu Ser Ser Pro Gly
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Pro Arg Leu Gly Lys Asp Leu Ser Glu Glu Pro Phe Asp Ile Trp Gly
725 730 735

Thr Trp His Ser Thr Leu Lys Ser Gly Ser Lys Asp Pro Gly Met Thr
740 745 750

Gly Ser Ser Gly Asp Ile Phe Glu Ser Ser Ser Leu Arg Ala Gly Pro
755 760 765

Cys Ser Leu Ser Gln Gly Asn Leu Ser Pro Asn Trp Pro Arg Trp Gln
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Gly Ser Pro Ala Glu Leu Asp Ser Asp Thr Gln Gly Ala Arg Arg Thr
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Gln Ala Ala Ala Pro Ala Thr Glu Gly Arg Ala His Pro Ala Val Ser
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Arg Ala Cys Ser Thr Pro His Val Gln Val Ala Gly Lys Ala Glu Arg
820 825 830

Pro Thr Ala Arg Ser Glu Gln Tyr Leu Thr Leu Ser Gly Ala His Asp
835 840 845

Leu Ser Glu Ser Glu Leu Asp Val Ala Gly Leu Gln Ser Arg Ala Thr
850 855 860

Pro Gln Cys Gln Arg Pro His Gly Ser Gly Arg Asp Asp Lys Arg Pro
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Pro Pro Pro Tyr Pro Gly Pro Gly Lys Pro Ala Ala Ala Ala Ala Trp
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Ile Gln Gly Pro Pro Glu Gly Val Glu Thr Pro Thr Asp Gln Gly Gly
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Lys Arg Asp Tyr Ile Arg Leu Tyr Gly Ile Lys Cys Ala Lys Cys Ser
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Ile Gly Phe Ser Lys Asn Asp Phe Val Met Arg Ala Arg Ser Lys Val
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Tyr His Ile Glu Cys Phe Arg Cys Val Ala Cys Ser Arg Gln Leu Ile
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Pro Gly Asp Glu Phe Ala Leu Arg Glu Asp Gly Leu Phe Cys Arg Ala
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Asp His Asp Val Val Glu Arg Ala Ser Leu Gly Ala Gly Asp Pro Leu
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Ser Pro Leu His Pro Ala Arg Pro Leu Gln Met Ala Ala Glu Pro Ile
145 150 155 160

Ser Ala Arg Gln Pro Ala Leu Arg Pro His Val His Lys Gln Pro Glu
165 170 175

Lys Thr Thr Arg Val Arg Thr Val Leu Asn Glu Lys Gln Leu His Thr
180 185 190

Leu Arg Thr Cys Tyr Ala Ala Asn Pro Arg Pro Asp Ala Leu Met Lys
195 200 205

Glu Gln Leu Val Glu Met Thr Gly Leu Ser Pro Arg Val Ile Arg Val
210 215 220

Trp Phe Gln Asn Lys Arg Cys Lys Asp Lys Lys Arg Ser Ile Met Met
225 230 235 240

Lys Gln Leu Gln Gln Gln Gln Pro Asn Asp Lys Thr Asn Ile Gln Gly

245

250

255

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aactgagaca ataaaacca aagcat 1886

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<210> 150
<211> 354
<212> PRT
<213> human organism

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<400> 150

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Met Ser Leu Arg Gly Ser Leu Ser Arg Leu Leu Gln Thr Arg Val His
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Ser Ile Leu Lys Lys Ser Val His Ser Val Ala Val Ile Gly Ala Pro
20           25           30

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Phe Ser Gln Gly Gln Lys Arg Lys Gly Val Glu His Gly Pro Ala Ala

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35

40

45

Ile Arg Glu Ala Gly Leu Met Lys Arg Leu Ser Ser Leu Gly Cys His
 50 55 60

Leu Lys Asp Phe Gly Asp Leu Ser Phe Thr Pro Val Pro Lys Asp Asp
 65 70 75 80

Leu Tyr Asn Asn Leu Ile Val Asn Pro Arg Ser Val Gly Leu Ala Asn
 85 90 95

Gln Glu Leu Ala Glu Val Val Ser Arg Ala Val Ser Asp Gly Tyr Ser
 100 105 110

Cys Val Thr Leu Gly Gly Asp His Ser Leu Ala Ile Gly Thr Ile Ser
 115 120 125

Gly His Ala Arg His Cys Pro Asp Leu Cys Val Val Trp Val Asp Ala
 130 135 140

His Ala Asp Ile Asn Thr Pro Leu Thr Thr Ser Ser Gly Asn Leu His
 145 150 155 160

Gly Gln Pro Val Ser Phe Leu Leu Arg Glu Leu Gln Asp Lys Val Pro
 165 170 175

Gln Leu Pro Gly Phe Ser Trp Ile Lys Pro Cys Ile Ser Ser Ala Ser
 180 185 190

Ile Val Tyr Ile Gly Leu Arg Asp Val Asp Pro Pro Glu His Phe Ile
 195 200 205

Leu Lys Asn Tyr Asp Ile Gln Tyr Phe Ser Met Arg Asp Ile Asp Arg
 210 215 220

Leu Gly Ile Gln Lys Val Met Glu Arg Thr Phe Asp Leu Leu Ile Gly
 225 230 235 240

Lys Arg Gln Arg Pro Ile His Leu Ser Phe Asp Ile Asp Ala Phe Asp
 245 250 255

Pro Thr Leu Ala Pro Ala Thr Gly Thr Pro Val Val Gly Gly Leu Thr
 260 265 270

Tyr Arg Glu Gly Met Tyr Ile Ala Glu Glu Ile His Asn Thr Gly Leu
 275 280 285

Leu Ser Ala Leu Asp Leu Val Glu Val Asn Pro Gln Leu Ala Thr Ser
 290 295 300

Glu Glu Glu Ala Lys Thr Thr Ala Asn Leu Ala Val Asp Val Ile Ala
 305 310 315 320

Ser Ser Phe Gly Gln Thr Arg Glu Gly Gly His Ile Val Tyr Asp Gln
 325 330 335

Leu Pro Thr Pro Ser Ser Pro Asp Glu Ser Glu Asn Gln Ala Arg Val
 340 345 350

Arg Ile

<210> 151
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 <213> human organism

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<210> 152
<211> 391
<212> PRT
<213> human organism

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<400> 152

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Met Glu Leu Val Ala Gly Cys Tyr Glu Gln Val Leu Phe Gly Phe Ala
1              5              10              15

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Val His Pro Glu Pro Lys Ala Cys Gly Asp His Glu Gln Trp Thr Leu
20              25              30

```

```

Val Ala Asp Phe Thr His His Ala His Thr Ala Ser Leu Ser Ala Val
35              40              45

```

```

Ala Val Asn Ser Arg Phe Val Val Thr Gly Ser Lys Asp Glu Thr Ile
50              55              60

```

```

His Ile Tyr Asp Met Lys Lys Lys Ile Glu His Gly Ala Leu Val His
65              70              75              80

```

```

His Ser Gly Thr Ile Thr Cys Leu Lys Phe Tyr Gly Asn Arg His Leu
85              90              95

```

Ile Ser Gly Ala Glu Asp Gly Leu Ile Cys Ile Trp Asp Ala Lys Lys
100 105 110

Trp Glu Cys Leu Lys Ser Ile Lys Ala His Lys Gly Gln Val Thr Phe
115 120 125

Leu Ser Ile His Pro Ser Gly Lys Leu Ala Leu Ser Val Gly Thr Asp
130 135 140

Lys Thr Leu Arg Thr Trp Asn Leu Val Glu Gly Arg Ser Ala Phe Ile
145 150 155 160

Lys Asn Ile Lys Gln Asn Ala His Ile Val Glu Trp Ser Pro Arg Gly
165 170 175

Glu Gln Tyr Val Val Ile Ile Gln Asn Lys Ile Asp Ile Tyr Gln Leu
180 185 190

Asp Thr Ala Ser Ile Ser Gly Thr Ile Thr Asn Glu Lys Arg Ile Ser
195 200 205

Ser Val Lys Phe Leu Ser Glu Ser Val Leu Ala Val Ala Gly Asp Glu
210 215 220

Glu Val Ile Arg Phe Phe Asp Cys Asp Ser Leu Val Cys Leu Cys Glu
225 230 235 240

Phe Lys Ala His Glu Asn Arg Val Lys Asp Met Phe Ser Phe Glu Ile
245 250 255

Pro Glu His His Val Ile Val Ser Ala Ser Ser Asp Gly Phe Ile Lys
260 265 270

Met Trp Lys Leu Lys Gln Asp Lys Lys Val Pro Pro Ser Leu Leu Cys
275 280 285

Glu Ile Asn Thr Asn Ala Arg Leu Thr Cys Leu Gly Val Trp Leu Asp
290 295 300

Lys Val Ala Asp Met Lys Ser Leu Pro Pro Ala Ala Glu Pro Ser Pro
305 310 315 320

Val Ser Lys Glu Gln Ser Lys Ile Gly Lys Lys Glu Pro Gly Asp Thr
 325 330 335

Val His Lys Glu Glu Lys Arg Ser Lys Pro Asn Thr Lys Lys Arg Gly
 340 345 350

Leu Thr Gly Asp Ser Lys Lys Ala Thr Lys Glu Ser Gly Leu Ile Ser
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Thr Lys Lys Arg Lys Met Val Glu Met Leu Glu Lys Lys Arg Lys Lys
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Lys Lys Ile Lys Thr Met Gln
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 <212> DNA
 <213> human organism

<400> 153
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<212> PRT
<213> human organism

<400> 154

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His Gly Glu Ser Leu Pro Arg Ser Leu Arg Tyr Cys Asp Leu Arg Leu
35 40 45

Ile Asn Ser Ser Cys Leu Val Arg Thr Ala Leu Glu Gln Glu Leu Gly
50 55 60

Leu Ala Ala Tyr Phe Val Ser Asn Glu Val Pro Leu Glu Lys Gly Ala
65 70 75 80

Arg Asn Glu Ala Leu Glu Ser Asp Ala Glu Lys Leu Ser Ser Thr Asp
85 90 95

Asn Glu Asp Glu Glu Leu Gly Thr Glu Gly Ser Thr Ser Glu Lys Arg
100 105 110

Ser Pro Met Lys Arg Glu Arg Ser Arg Ser His Asp Ser Ala Ser Ser
115 120 125

Ser Leu Ser Ser Lys Ala Ser Gly Ser Ala Leu Gly Gly Glu Ser Ser
130 135 140

Ala Gln Pro Thr Ala Leu Pro Gln Gly Glu His Ala Arg Ser Pro Gln
145 150 155 160

Pro Arg Gly Pro Ala Glu Glu Gly Arg Ala Pro Gly Glu Lys Gln Arg
165 170 175

Pro Arg Ala Ser Gln Gly Pro Pro Ser Ala Ile Ser Arg His Ser Pro
180 185 190

Gly Pro Thr Pro Gln Pro Asp Cys Ser Leu Arg Thr Gly Gln Arg Ser
195 200 205

Val Gln Val Ser Val Thr Ser Ser Cys Ser Gln Leu Ser Ser Ser Ser
210 215 220

Gly Ser Ser Ser Ser Val Ala Pro Ala Ala Gly Thr Trp Val Leu
225 230 235 240

Gln Ala Ser Gln Cys Ser Leu Thr Lys Ala Cys Arg Gln Pro Pro Ile
245 250 255

Val Phe Leu Pro Lys Leu Val Tyr Asp Met Val Val Ser Thr Asp Ser
260 265 270

Ser Gly Leu Pro Lys Ala Ala Ser Leu Leu Pro Ser Pro Ser Val Met
275 280 285

Trp Ala Ser Ser Phe Arg Pro Leu Leu Ser Lys Thr Met Thr Ser Thr
290 295 300

Glu Gln Ser Leu Tyr Tyr Arg Gln Trp Thr Val Pro Arg Pro Ser His
305 310 315 320

Met Asp Tyr Gly Asn Arg Ala Glu Gly Arg Val Asp Gly Phe His Pro
325 330 335

Arg Arg Leu Leu Leu Ser Gly Pro Pro Gln Ile Gly Lys Thr Gly Ala
340 345 350

Tyr Leu Gln Phe Leu Ser Val Leu Ser Arg Met Leu Val Arg Leu Thr
355 360 365

Glu Val Asp Val Tyr Asp Glu Glu Glu Ile Asn Ile Asn Leu Arg Glu
370 375 380

Glu Ser Asp Trp His Tyr Leu Gln Leu Ser Asp Pro Trp Pro Asp Leu
385 390 395 400

Glu Leu Phe Lys Lys Leu Pro Phe Asp Tyr Ile Ile His Asp Pro Lys
405 410 415

Tyr Glu Asp Ala Ser Leu Ile Cys Ser His Tyr Gln Gly Ile Lys Ser
420 425 430

Glu Asp Arg Gly Met Ser Arg Lys Pro Glu Asp Leu Tyr Val Arg Arg
435 440 445

Gln Thr Ala Arg Met Arg Leu Ser Lys Tyr Ala Ala Tyr Asn Thr Tyr
450 455 460

His His Cys Glu Gln Cys His Gln Tyr Met Gly Phe His Pro Arg Tyr
465 470 475 480

Gln Leu Tyr Glu Ser Thr Leu His Ala Phe Ala Phe Ser Tyr Ser Met
485 490 495

Leu Gly Glu Glu Ile Gln Leu His Phe Ile Ile Pro Lys Ser Lys Glu
500 505 510

His His Phe Val Phe Ser Gln Pro Gly Gly Gln Leu Glu Ser Met Arg

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Leu Leu Cys Arg Phe Asn Arg Phe Ser Val Met Lys Lys Gln Ile Val
755 760 765

Val Gly Gly His Arg Ser Phe His Ile Thr Ser Lys Val Ser Asp Asn
770 775 780

Ser Ala Ala Val Val Pro Ala Gln Tyr Ile Cys Ala Pro Asp Ser Lys
785 790 795 800

His Thr Phe Leu Ala Ala Pro Ala Gln Leu Leu Leu Glu Lys Phe Leu
805 810 815

Gln His His Ser His Leu Phe Phe Pro Leu Ser Leu Lys Asn His Asp
820 825 830

His Pro Val Leu Ser Val Asp Cys Tyr Leu Asn Leu Gly Ser Gln Ile
835 840 845

Ser Val Cys Tyr Val Ser Ser Arg Pro His Ser Leu Asn Ile Ser Cys
850 855 860

Ser Asp Leu Leu Phe Ser Gly Leu Leu Leu Tyr Leu Cys Asp Ser Phe
865 870 875 880

Val Gly Ala Ser Phe Leu Lys Lys Phe His Phe Leu Lys Gly Ala Thr
885 890 895

Leu Cys Val Ile Cys Gln Asp Arg Ser Ser Leu Arg Gln Thr Val Val
900 905 910

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915 920 925

Gln Thr Ala Asn Ala Arg Glu Asp Arg Pro Leu Phe Phe Leu Thr Gly
930 935 940

Arg His Ile
945

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<211> 1167
<212> DNA

<213> human organism

<400> 155

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<211> 388

<212> PRT

<213> human organism

<400> 156

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1           5           10           15
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          20           25           30
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Lys Asn Met Glu Gly Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
35 40 45

Ala Ala Ala Gly Ala Gly Gly Gly Gly Phe Pro His Pro Ala Ala Ala
50 55 60

Ala Ala Gly Gly Asn Phe Ser Val Ala Ala Ala Ala Ala Ala Ala
65 70 75 80

Ala Ala Ala Ala Asn Gln Cys Arg Asn Leu Met Ala His Pro Ala Pro
85 90 95

Leu Ala Pro Gly Ala Ala Ser Ala Tyr Ser Ser Ala Pro Gly Glu Ala
100 105 110

Pro Pro Ser Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
115 120 125

Ala Ala Ala Ala Ala Ser Ser Ser Gly Gly Pro Gly Pro Ala Gly Pro
130 135 140

Ala Ala Ala Glu Ala Ala Lys Gln Cys Ser Pro Cys Ser Ala Ala Ala
145 150 155 160

Gln Ser Ser Ser Gly Pro Ala Ala Leu Pro Tyr Gly Tyr Phe Gly Ser
165 170 175

Gly Tyr Tyr Pro Cys Ala Arg Met Gly Pro Pro Pro Asn Ala Ile Lys
180 185 190

Ser Cys Pro Gln Pro Pro Ser Ala Ala Ala Ala Ala Ala Phe Ala Asp
195 200 205

Lys Tyr Met Asp Thr Ala Gly Pro Ala Ala Glu Glu Phe Ser Ser Arg
210 215 220

Ala Lys Glu Phe Ala Phe Tyr His Gln Gly Tyr Ala Ala Gly Pro Tyr
225 230 235 240

His His His Gln Pro Met Pro Gly Tyr Leu Asp Met Pro Val Val Pro
245 250 255

Gly Leu Gly Gly Pro Gly Glu Ser Arg His Glu Pro Leu Gly Leu Pro
 260 265 270

Met Glu Ser Tyr Gln Pro Trp Ala Leu Pro Asn Gly Trp Asn Gly Gln
 275 280 285

Met Tyr Cys Pro Lys Glu Gln Ala Gln Pro Pro His Leu Trp Lys Ser
 290 295 300

Thr Leu Pro Asp Val Val Ser His Pro Ser Asp Ala Ser Ser Tyr Arg
 305 310 315 320

Arg Gly Arg Lys Lys Arg Val Pro Tyr Thr Lys Val Gln Leu Lys Glu
 325 330 335

Leu Glu Arg Glu Tyr Ala Thr Asn Lys Phe Ile Thr Lys Asp Lys Arg
 340 345 350

Arg Arg Ile Ser Ala Thr Thr Asn Leu Ser Glu Arg Gln Val Thr Ile
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Trp Phe Gln Asn Arg Arg Val Lys Glu Lys Lys Val Ile Asn Lys Leu
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Lys Thr Thr Ser
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<400> 158

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Phe Ser Leu Leu Ala Pro Gly Gln Val Pro Asn Glu Ser Ser Glu Glu
          20           25           30

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Ala Ala Gly Ser Ser Glu Ser Cys Lys Ala Thr Val Pro Ile Cys Gln
          35           40           45

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Asp Ile Pro Glu Lys Asn Ile Gln Glu Ser Leu Pro Gln Arg Lys Thr
          50           55           60

```

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Ser Arg Ser Arg Val Tyr Leu His Thr Leu Ala Glu Ser Ile Cys Lys
          65           70           75           80

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Leu Ile Phe Pro Glu Phe Glu Arg Leu Asn Val Ala Leu Gln Arg Thr
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Leu Ala Lys His Lys Ile Lys Glu Ser Arg Lys Ser Leu Glu Arg Glu
100 105 110

Asp Phe Glu Lys Thr Ile Ala Glu Gln Ala Val Gln Gln Ser Pro Val
115 120 125

Glu Leu Ser Lys Asn Leu Leu Val Lys Arg Phe Leu Lys Tyr Val Thr
130 135 140

Arg Lys Met Lys Thr Ser Leu Gly Trp Leu Glu Ala Pro Leu Lys Ile
145 150 155 160

Phe Lys Gln Leu Gln Tyr Pro Ser Glu Thr Glu Gln Pro Leu Pro Arg
165 170 175

Ser Arg Lys Lys Gly Gln Leu Glu Asp Ala Ser Ile Leu Cys Leu Asp
180 185 190

Lys Glu Asp Asp Phe Leu His Val Tyr Tyr Phe Phe Pro Lys Arg Thr
195 200 205

Thr Ser Leu Ile Leu Pro Gly Ile Ile Lys Ala Ala Ala His Val Leu
210 215 220

Tyr Glu Thr Glu Val Glu Val Ser Leu Met Pro Pro Cys Phe His Asn
225 230 235 240

Asp Cys Ser Glu Phe Val Asn Gln Pro Tyr Leu Leu Tyr Ser Val His
245 250 255

Met Lys Ser Thr Lys Pro Ser Leu Ser Pro Ser Lys Pro Gln Ser Ser
260 265 270

Leu Val Ile Pro Thr Ser Leu Phe Cys Lys Thr Phe Pro Phe His Phe
275 280 285

Met Phe Asp Lys Asp Met Thr Ile Leu Gln Phe Gly Asn Gly Ile Arg
290 295 300

Arg Leu Met Asn Arg Arg Asp Phe Gln Gly Lys Pro Asn Phe Glu Tyr
305 310 315 320

Phe Glu Ile Leu Thr Pro Lys Ile Asn Gln Thr Phe Ser Gly Ile Met
325 330 335

Thr Met Leu Asn Met Gln Phe Val Val Arg Val Arg Arg Trp Asp Asn
340 345 350

Ser Val Lys Lys Ser Ser Arg Val Met Asp Leu Lys Gly Gln Met Ile
355 360 365

Tyr Ile Val Glu Ser Ser Ala Ile Leu Phe Leu Gly Ser Pro Cys Val
370 375 380

Asp Arg Leu Glu Asp Phe Thr Gly Arg Gly Leu Tyr Leu Ser Asp Ile
385 390 395 400

Pro Ile His Asn Ala Leu Arg Asp Val Val Leu Ile Gly Glu Gln Ala
405 410 415

Arg Ala Gln Asp Gly Leu Lys Lys Arg Leu Gly Lys Leu Lys Ala Thr
420 425 430

Leu Glu Gln Ala His Gln Ala Leu Glu Glu Glu Lys Lys Lys Thr Val
435 440 445

Asp Leu Leu Cys Ser Ile Phe Pro Cys Glu Val Ala Gln Gln Leu Trp
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Gln Gly Gln Val Val Gln Ala Lys Lys Phe Ser Asn Val Thr Met Leu
465 470 475 480

Phe Ser Asp Ile Val Gly Phe Thr Ala Ile Cys Ser Gln Cys Ser Pro
485 490 495

Leu Gln Val Ile Thr Met Leu Asn Ala Leu Tyr Thr Arg Phe Asp Gln
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Gln Cys Gly Glu Leu Asp Val Tyr Lys Val Glu Thr Ile Ala Met Pro
515 520 525

Ile Val Trp Leu Gly Gly Leu His Lys Glu Ser Asp Thr His Ala Val
 530 535 540

Gln Ile Ala Leu Met Ala Leu Lys Met Met Glu Leu Ser Asp Glu Val
 545 550 555 560

Met Ser Pro His Gly Glu Pro Ile Lys Met Arg Ile Gly Leu His Ser
 565 570 575

Gly Ser Val Phe Ala Gly Val Val Gly Val Lys Met Pro Arg Tyr Cys
 580 585 590

Leu Phe Gly Asn Asn Val Thr Leu Ala Asn Lys Phe Glu Ser Cys Ser
 595 600 605

Val Pro Arg Lys Ile Asn Val Ser Pro Thr Thr Tyr Arg Leu Leu Lys
 610 615 620

Asp Cys Pro Gly Phe Val Phe Thr Pro Arg Ser Arg Glu Glu Leu Pro
 625 630 635 640

Pro Asn Phe Pro Ser Glu Ile Pro Gly Ile Cys His Phe Leu Asp Ala
 645 650 655

Tyr Gln Gln Gly Thr Asn Ser Lys Pro Cys Phe Gln Lys Lys Asp Val
 660 665 670

Glu Asp Ala Ser Gln Phe Phe Arg Gln Ser Ile Arg Asn Arg Leu Ala
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Thr Tyr Ile Pro Ile Tyr Lys Ser Leu Gly Phe Asp Ser Leu Lys Met
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Cys Arg Ala Ser Glu Ser Thr Leu Gly Ile Val Asp Gly
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 <211> 2710
 <212> DNA
 <213> human organism

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Glu Asn Ser Glu Glu Ile Asp Val Asn Glu Ser Glu Leu Ser Ser Glu
35 40 45

Ile Lys Tyr Lys Thr Pro Gln Pro Ile Gly Glu Val Tyr Phe Ala Glu
50 55 60

Thr Phe Asp Ser Gly Arg Leu Ala Gly Trp Val Leu Ser Lys Ala Lys

65

70

75

80

Lys Asp Asp Met Asp Glu Glu Ile Ser Ile Tyr Asp Gly Arg Trp Glu
85 90 95

Ile Glu Glu Leu Lys Glu Asn Gln Val Pro Gly Asp Arg Gly Leu Val
100 105 110

Leu Lys Ser Arg Ala Lys His His Ala Ile Ser Ala Val Leu Ala Lys
115 120 125

Pro Phe Ile Phe Ala Asp Lys Pro Leu Ile Val Gln Tyr Glu Val Asn
130 135 140

Phe Gln Asp Gly Ile Asp Cys Gly Gly Ala Tyr Ile Lys Leu Leu Ala
145 150 155 160

Asp Thr Asp Asp Leu Ile Leu Glu Asn Phe Tyr Asp Lys Thr Ser Tyr
165 170 175

Ile Ile Met Phe Gly Pro Asp Lys Cys Gly Glu Asp Tyr Lys Leu His
180 185 190

Phe Ile Phe Arg His Lys His Pro Lys Thr Gly Val Phe Glu Glu Lys
195 200 205

His Ala Lys Pro Pro Asp Val Asp Leu Lys Lys Phe Phe Thr Asp Arg
210 215 220

Lys Thr His Leu Tyr Thr Leu Val Met Asn Pro Asp Asp Thr Phe Glu
225 230 235 240

Val Leu Val Asp Gln Thr Val Val Asn Lys Gly Ser Leu Leu Glu Asp
245 250 255

Val Val Pro Pro Ile Lys Pro Pro Lys Glu Ile Glu Asp Pro Asn Asp
260 265 270

Lys Lys Pro Glu Glu Trp Asp Glu Arg Ala Lys Ile Pro Asp Pro Ser
275 280 285

Ala Val Lys Pro Glu Asp Trp Asp Glu Ser Glu Pro Ala Gln Ile Glu
290 295 300

Asp Ser Ser Val Val Lys Pro Ala Gly Trp Leu Asp Asp Glu Pro Lys
305 310 315 320

Phe Ile Pro Asp Pro Asn Ala Glu Lys Pro Asp Asp Trp Asn Glu Asp
325 330 335

Thr Asp Gly Glu Trp Glu Ala Pro Gln Ile Leu Asn Pro Ala Cys Arg
340 345 350

Ile Gly Cys Gly Glu Trp Lys Pro Pro Met Ile Asp Asn Pro Lys Tyr
355 360 365

Lys Gly Val Trp Arg Pro Pro Leu Val Asp Asn Pro Asn Tyr Gln Gly
370 375 380

Ile Trp Ser Pro Arg Lys Ile Pro Asn Pro Asp Tyr Phe Glu Asp Asp
385 390 395 400

His Pro Phe Leu Leu Thr Ser Phe Ser Ala Leu Gly Leu Glu Leu Trp
405 410 415

Ser Met Thr Ser Asp Ile Tyr Phe Asp Asn Phe Ile Ile Cys Ser Glu
420 425 430

Lys Glu Val Ala Asp His Trp Ala Ala Asp Gly Trp Arg Trp Lys Ile
435 440 445

Met Ile Ala Asn Ala Asn Lys Pro Gly Val Leu Lys Gln Leu Met Ala
450 455 460

Ala Ala Glu Gly His Pro Trp Leu Trp Leu Ile Tyr Leu Val Thr Ala
465 470 475 480

Gly Val Pro Ile Ala Leu Ile Thr Ser Phe Cys Trp Pro Arg Lys Val
485 490 495

Lys Lys Lys His Lys Asp Thr Glu Tyr Lys Lys Thr Asp Ile Cys Ile
500 505 510

Pro Gln Thr Lys Gly Val Leu Glu Gln Glu Glu Lys Glu Glu Lys Ala
515 520 525

Ala Leu Glu Lys Pro Met Asp Leu Glu Glu Glu Lys Lys Gln Asn Asp
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Glu Glu Glu Ile Glu Ile Ile Glu Gly Gln Glu Glu Ser Asn Gln Ser
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Lys Asp
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Phe Gly Phe Val Leu Arg Gly Ala Lys Ala Asp Thr Pro Ile Glu Glu
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Phe Thr Pro Thr Pro Ala Phe Pro Ala Leu Gln Tyr Leu Glu Ser Val
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Asp Glu Gly Gly Val Ala Trp Gln Ala Gly Leu Arg Thr Gly Asp Phe
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Leu Ile Glu Val Asn Asn Glu Asn Val Val Lys Val Gly His Arg Gln
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Val Val Asn Met Ile Arg Gln Gly Gly Asn His Leu Val Leu Lys Val
 115 120 125

Val Thr Val Thr Arg Asn Leu Asp Pro Asp Asp Thr Ala Arg Lys Lys
 130 135 140

Ala Pro Pro Pro Pro Lys Arg Ala Pro Thr Thr Ala Leu Thr Leu Arg
 145 150 155 160

Ser Lys Ser Met Thr Ser Glu Leu Glu Glu Leu Val Asp Lys Asp Lys
 165 170 175

Pro Glu Glu Ile Val Pro Ala Ser Lys Pro Ser Arg Ala Ala Glu Asn
 180 185 190

Met Ala Val Glu Pro Arg Val Ala Thr Ile Lys Gln Arg Pro Ser Ser
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Arg Cys Phe Pro Ala Gly Ser Asp Met Asn Ser Val Tyr Glu Arg Gln
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Gly Ile Ala Val Met Thr Pro Thr Val Pro Gly Ser Pro Lys Ala Pro
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Phe Leu Gly Ile Pro Arg Gly Thr Met Arg Arg Gln Lys Ser Ile Asp
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Ser Arg Ile Phe Leu Ser Gly Ile Thr Glu Glu Glu Arg Gln Phe Leu
260 265 270

Ala Pro Pro Met Leu Lys Phe Thr Arg Ser Leu Ser Met Pro Asp Thr
275 280 285

Ser Glu Asp Ile Pro Pro Pro Pro Gln Ser Val Pro Pro Ser Pro Pro
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Pro Pro Ser Pro Thr Thr Tyr Asn Cys Pro Lys Ser Pro Thr Pro Arg
305 310 315 320

Val Tyr Gly Thr Ile Lys Pro Ala Phe Asn Gln Asn Ser Ala Ala Lys
325 330 335

Val Ser Pro Ala Thr Arg Ser Asp Thr Val Ala Thr Met Met Arg Glu
340 345 350

Lys Gly Met Tyr Phe Arg Arg Glu Leu Asp Arg Tyr Ser Leu Asp Ser
355 360 365

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370 375 380

Lys Arg Gly Gln Met Pro Glu Asn Pro Tyr Ser Glu Val Gly Lys Ile
385 390 395 400

Ala Ser Lys Ala Val Tyr Val Pro Ala Lys Pro Ala Arg Arg Lys Gly
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Ser Ile Pro Ile Pro Thr Ile Ile Val Lys Glu Pro Ser Thr Ser Ser
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Ser Pro Phe Ala Ala Ala Ile Ala Gly Ala Val Arg Asp Arg Glu Lys
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Arg Leu Glu Ala Arg Arg Asn Ser Pro Ala Phe Leu Ser Thr Asp Leu
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Gly Asp Glu Asp Val Gly Leu Gly Pro Pro Ala Pro Arg Thr Arg Pro
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Ser Met Phe Pro Glu Glu Gly Asp Phe Ala Asp Glu Asp Ser Ala Glu
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Gln Leu Ser Ser Pro Met Pro Ser Ala Thr Pro Arg Glu Pro Glu Asn
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565 570 575

Pro Leu Asn Ser Thr Ser Lys Ala Gln Gly Pro Glu Ser Ser Pro Ala
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Val Pro Ser Ala Ser Ser Gly Thr Ala Gly Pro Gly Asn Tyr Val His
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Pro Leu Thr Gly Arg Leu Leu Asp Pro Ser Ser Pro Leu Ala Leu Ala
610 615 620

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Gly Glu Ala Pro Lys Ala Asp Leu Asn Lys Pro Leu Tyr Ile Asp Thr
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Lys Met Arg Pro Ser Leu Asp Ala Gly Phe Pro Thr Val Thr Arg Gln
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675 680 685

Thr Asp Leu Gly Arg Asp Arg Lys Gly Asp Asp Lys Lys Asn Met Leu
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Val His Thr Val Asp Ala Thr Lys Leu Asp Asn Ala Leu Gln Glu Glu
725 730 735

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755 760 765

Ala Pro Glu Pro Thr Thr Val Pro Gly Arg Thr Ile Val Ala Val Gly
770 775 780

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785 790 795 800

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Pro Pro Pro Leu Glu Phe Ala Asn Ser Phe Asp Ile Pro Asp Asp Arg
820 825 830

Ala Ala Ser Val Pro Ala Leu Ser Asp Leu Val Lys Gln Lys Lys Ser
835 840 845

Asp Thr Pro Gln Ser Pro Ser Leu Asn Ser Ser Gln Pro Thr Asn Ser
850 855 860

Ala Asp Ser Lys Lys Pro Ala Ser Leu Ser Asn Cys Leu Pro Ala Ser
865 870 875 880

Phe Leu Pro Pro Pro Glu Ser Phe Asp Ala Val Ala Asp Ser Gly Ile
885 890 895

Glu Glu Val Asp Ser Arg Ser Ser Ser Asp His His Leu Glu Thr Thr
900 905 910

Ser Thr Ile Ser Thr Val Ser Ser Ile Ser Thr Leu Ser Ser Glu Gly
915 920 925

Gly Glu Asn Val Asp Thr Cys Thr Val Tyr Ala Asp Gly Gln Ala Phe

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Val Asp Ser Phe Val Ile Pro Pro Pro Ala Pro Pro Pro Pro Pro Gly				
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Ser Ala Gln Pro Gly Met Ala Lys Val Leu Gln Pro Arg Thr Ser Lys				
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Leu Trp Gly Asp Val Thr Glu Ile Lys Ser Pro Ile Leu Ser Gly				
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Pro Lys Ala Asn Val Ile Ser Glu Leu Asn Ser Ile Leu Gln Gln				
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Met Asn Arg Glu Lys Leu Ala Lys Pro Gly Glu Gly Leu Asp Ser				
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Pro Met Gly Ala Lys Ser Ala Ser Leu Ala Pro Arg Ser Pro Glu				
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Ile Met Ser Thr Ile Ser Gly Thr Arg Ser Thr Thr Val Thr Phe				
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Thr Val Arg Pro Gly Thr Ser Gln Pro Ile Thr Leu Gln Ser Arg				
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Pro Pro Asp Tyr Glu Ser Arg Thr Ser Gly Thr Arg Arg Ala Pro				
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Ala Pro Leu Ser Ala Ala Thr Ala Ser Pro Ser Pro Ala Leu Ser				
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Leu Gln Gln Pro Ile Ser Asn Lys Pro Phe Thr Thr Lys Pro Val
 1175 1180 1185

His Leu Trp Thr Lys Pro Asp Val Ala Asp Trp Leu Glu Ser Leu
 1190 1195 1200

Asn Leu Gly Glu His Lys Glu Ala Phe Met Asp Asn Glu Ile Asp
 1205 1210 1215

Gly Ser His Leu Pro Asn Leu Gln Lys Glu Asp Leu Ile Asp Leu
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Gly Val Thr Arg Val Gly His Arg Met Asn Ile Glu Arg Ala Leu
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Val Val Gly Met Gly Ile Val Met Ser Leu Ile Val Leu Ala Ile Val
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Phe Gly Asn Val Leu Val Ile Thr Ala Ile Ala Lys Phe Glu Arg Leu
50 55 60

Gln Thr Val Thr Asn Tyr Phe Ile Thr Ser Leu Ala Cys Ala Asp Leu
65 70 75 80

Val Met Gly Leu Ala Val Val Pro Phe Gly Ala Ala His Ile Leu Met
85 90 95

Lys Met Trp Thr Phe Gly Asn Phe Trp Cys Glu Phe Trp Thr Ser Ile
100 105 110

Asp Val Leu Cys Val Thr Ala Ser Ile Glu Thr Leu Cys Val Ile Ala
115 120 125

Val Asp Arg Tyr Phe Ala Ile Thr Ser Pro Phe Lys Tyr Gln Ser Leu
130 135 140

Leu Thr Lys Asn Lys Ala Arg Val Ile Ile Leu Met Val Trp Ile Val
145 150 155 160

Ser Gly Leu Thr Ser Phe Leu Pro Ile Gln Met His Trp Tyr Arg Ala
165 170 175

Thr His Gln Glu Ala Ile Asn Cys Tyr Ala Asn Glu Thr Cys Cys Asp
180 185 190

Phe Phe Thr Asn Gln Ala Tyr Ala Ile Ala Ser Ser Ile Val Ser Phe
195 200 205

Tyr Val Pro Leu Val Ile Met Val Phe Val Tyr Ser Arg Val Phe Gln
210 215 220

Glu Ala Lys Arg Gln Leu Gln Lys Ile Asp Lys Ser Glu Gly Arg Phe
225 230 235 240

His Val Gln Asn Leu Ser Gln Val Glu Gln Asp Gly Arg Thr Gly His
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Gly Leu Arg Arg Ser Ser Lys Phe Cys Leu Lys Glu His Lys Ala Leu
 260 265 270

Lys Thr Leu Gly Ile Ile Met Gly Thr Phe Thr Leu Cys Trp Leu Pro
 275 280 285

Phe Phe Ile Val Asn Ile Val His Val Ile Gln Asp Asn Leu Ile Arg
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Lys Glu Val Tyr Ile Leu Leu Asn Trp Ile Gly Tyr Val Asn Ser Gly
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Phe Asn Pro Leu Ile Tyr Cys Arg Ser Pro Asp Phe Arg Ile Ala Phe
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Gln Glu Leu Leu Cys Leu Arg Arg Ser Ser Leu Lys Ala Tyr Gly Asn
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Gly Tyr Ser Ser Asn Gly Asn Thr Gly Glu Gln Ser Gly Tyr His Val
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Glu Gln Glu Lys Glu Asn Lys Leu Leu Cys Glu Asp Leu Pro Gly Thr
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<400> 169

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Thr Ile Asn Pro Ile Leu Leu Tyr Phe Ile His Phe Leu Ile Ser Leu
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Tyr Thr Ile Leu Thr Tyr Ile Pro Phe Tyr Phe Phe Ser Glu Ser Arg
 35 40 45

Gln Glu Lys Ser Asn Arg Ile Lys Ala Lys Pro Val Asn Ser Lys Pro
 50 55 60

Asp Ser Ala Tyr Arg Ser Val Asn Ser Leu Asp Gly Leu Ala Ser Val
 65 70 75 80

Leu Tyr Pro Gly Cys Asp Thr Leu Asp Lys Val Phe Thr Tyr Ala Lys
 85 90 95

Asn Lys Phe Lys Asn Lys Arg Leu Leu Gly Thr Arg Glu Val Leu Asn
 100 105 110

Glu Glu Asp Glu Val Gln Pro Asn Gly Lys Ile Phe Lys Lys Val Ile
 115 120 125

Leu Gly Gln Tyr Asn Trp Leu Ser Tyr Glu Asp Val Phe Val Arg Ala
 130 135 140

Phe Asn Phe Gly Asn Gly Leu Gln Met Leu Gly Gln Lys Pro Lys Thr
 145 150 155 160

Asn Ile Ala Ile Phe Cys Glu Thr Arg Ala Glu Trp Met Ile Ala Ala
 165 170 175

Gln Ala Cys Phe Met Tyr Asn Phe Gln Leu Val Thr Leu Tyr Ala Thr
180 185 190

Leu Gly Gly Pro Ala Ile Val His Ala Leu Asn Glu Thr Glu Val Thr
195 200 205

Asn Ile Ile Thr Ser Lys Glu Leu Leu Gln Thr Lys Leu Lys Asp Ile
210 215 220

Val Ser Leu Val Pro Arg Leu Arg His Ile Ile Thr Val Asp Gly Lys
225 230 235 240

Pro Pro Thr Trp Ser Asp Phe Pro Lys Gly Ile Ile Val His Thr Met
245 250 255

Ala Ala Val Glu Ala Leu Gly Ala Lys Ala Ser Met Glu Asn Gln Pro
260 265 270

His Ser Lys Pro Leu Pro Ser Asp Ile Ala Val Ile Met Tyr Thr Ser
275 280 285

Gly Ser Thr Gly Leu Pro Lys Gly Val Met Ile Ser His Ser Asn Ile
290 295 300

Ile Ala Gly Ile Thr Gly Met Ala Glu Arg Ile Pro Glu Leu Gly Glu
305 310 315 320

Glu Asp Val Tyr Ile Gly Tyr Leu Pro Leu Ala His Val Leu Glu Leu
325 330 335

Ser Ala Glu Leu Val Cys Leu Ser His Gly Cys Arg Ile Gly Tyr Ser
340 345 350

Ser Pro Gln Thr Leu Ala Asp Gln Ser Ser Lys Ile Lys Lys Gly Ser
355 360 365

Lys Gly Asp Thr Ser Met Leu Lys Pro Thr Leu Met Ala Ala Val Pro
370 375 380

Glu Ile Met Asp Arg Ile Tyr Lys Asn Val Met Asn Lys Val Ser Glu
385 390 395 400

Met Ser Ser Phe Gln Arg Asn Leu Phe Ile Leu Ala Tyr Asn Tyr Lys
405 410 415

Met Glu Gln Ile Ser Lys Gly Arg Asn Thr Pro Leu Cys Asp Ser Phe
420 425 430

Val Phe Arg Lys Val Arg Ser Leu Leu Gly Gly Asn Ile Arg Leu Leu
435 440 445

Leu Cys Gly Gly Ala Pro Leu Ser Ala Thr Thr Gln Arg Phe Met Asn
450 455 460

Ile Cys Phe Cys Cys Pro Val Gly Gln Gly Tyr Gly Leu Thr Glu Ser
465 470 475 480

Ala Gly Ala Gly Thr Ile Ser Glu Val Trp Asp Tyr Asn Thr Gly Arg
485 490 495

Val Gly Ala Pro Leu Val Cys Cys Glu Ile Lys Leu Lys Asn Trp Glu
500 505 510

Glu Gly Gly Tyr Phe Asn Thr Asp Lys Pro His Pro Arg Gly Glu Ile
515 520 525

Leu Ile Gly Gly Gln Ser Val Thr Met Gly Tyr Tyr Lys Asn Glu Ala
530 535 540

Lys Thr Lys Ala Asp Phe Ser Glu Asp Glu Asn Gly Gln Arg Trp Leu
545 550 555 560

Cys Thr Gly Asp Ile Gly Glu Phe Glu Pro Asp Gly Cys Leu Lys Ile
565 570 575

Ile Asp Arg Lys Lys Asp Leu Val Lys Leu Gln Ala Gly Glu Tyr Val
580 585 590

Ser Leu Gly Lys Val Glu Ala Ala Leu Lys Asn Leu Pro Leu Val Asp
595 600 605

Asn Ile Cys Ala Tyr Ala Asn Ser Tyr His Ser Tyr Val Ile Gly Phe
610 615 620

Val Val Pro Asn Gln Lys Glu Leu Thr Glu Leu Ala Arg Lys Lys Gly

625

630

635

640

Leu Lys Gly Thr Trp Glu Glu Leu Cys Asn Ser Cys Glu Met Glu Asn
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Glu Val Leu Lys Val Leu Ser Glu Ala Ala Ile Ser Ala Ser Leu Glu
 660 665 670

Lys Phe Glu Ile Pro Val Lys Ile Arg Leu Ser Pro Glu Pro Trp Thr
 675 680 685

Pro Glu Thr Gly Leu Val Thr Asp Ala Phe Lys Leu Lys Arg Lys Glu
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Leu Lys Thr His Tyr Gln Ala Asp Ile Glu Arg Met Tyr Gly Arg Lys
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<210> 170

<211> 4121

<212> DNA

<213> human organism

<400> 170

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 <211> 345
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<213> human organism

<400> 171

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Gly Asn Phe Met Cys Ser Asn Gly Arg Cys Ile Pro Gly Ala Trp Gln
35 40 45

Cys Asp Gly Leu Pro Asp Cys Phe Asp Lys Ser Asp Glu Lys Glu Cys
50 55 60

Pro Lys Ala Lys Ser Lys Cys Gly Pro Thr Phe Phe Pro Cys Ala Ser
65 70 75 80

Gly Ile His Cys Ile Ile Gly Arg Phe Arg Cys Asn Gly Phe Glu Asp
85 90 95

Cys Pro Asp Gly Ser Asp Glu Glu Asn Cys Thr Ala Asn Pro Leu Leu
100 105 110

Cys Ser Thr Ala Arg Tyr His Cys Lys Asn Gly Leu Cys Ile Asp Lys
115 120 125

Ser Phe Ile Cys Asp Gly Gln Asn Asn Cys Gln Asp Asn Ser Asp Glu
130 135 140

Glu Ser Cys Glu Ser Ser Gln Glu Pro Gly Ser Gly Gln Val Phe Val
145 150 155 160

Thr Ser Glu Asn Gln Leu Val Tyr Tyr Pro Ser Ile Thr Tyr Ala Ile
165 170 175

Ile Gly Ser Ser Val Ile Phe Val Leu Val Val Ala Leu Leu Ala Leu
180 185 190

Val Leu His His Gln Arg Lys Arg Asn Asn Leu Met Thr Leu Pro Val
195 200 205

His Arg Leu Gln His Pro Val Leu Leu Ser Arg Leu Val Val Leu Asp

210	215	220
His Pro His His Cys Asn Val Thr Tyr Asn Val Asn Asn Gly Ile Gln		
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Tyr Val Ala Ser Gln Ala Glu Gln Asn Ala Ser Glu Val Gly Ser Pro		
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Pro Ser Tyr Ser Glu Ala Leu Leu Asp Gln Arg Pro Ala Trp Tyr Asp		
	260	265 270
Leu Pro Pro Pro Pro Tyr Ser Ser Asp Thr Glu Ser Leu Asn Gln Ala		
	275	280 285
Asp Leu Pro Pro Tyr Arg Ser Arg Ser Gly Ser Ala Asn Ser Ala Ser		
	290	300
Ser Gln Ala Ala Ser Ser Leu Leu Ser Val Glu Asp Thr Ser His Ser		
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Pro Gly Gln Pro Gly Pro Gln Glu Gly Thr Ala Glu Pro Arg Asp Ser		
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Glu Pro Ser Gln Gly Thr Glu Glu Val		
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 <212> DNA
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<211> 492
<212> PRT
<213> human organism

<400> 173

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Asn His Gly Tyr Gln Pro Glu Asn Pro Tyr Pro Ala Gln Pro Thr Val
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Val Pro Thr Val Tyr Glu Val His Pro Ala Gln Tyr Tyr Pro Ser Pro
35 40 45

Val Pro Gln Tyr Ala Pro Arg Val Leu Thr Gln Ala Ser Asn Pro Val
50 55 60

Val Cys Thr Gln Pro Lys Ser Pro Ser Gly Thr Val Cys Thr Ser Lys
65 70 75 80

Thr Lys Lys Ala Leu Cys Ile Thr Leu Thr Leu Gly Thr Phe Leu Val
85 90 95

Gly Ala Ala Leu Ala Ala Gly Leu Leu Trp Lys Phe Met Gly Ser Lys
100 105 110

Cys Ser Asn Ser Gly Ile Glu Cys Asp Ser Ser Gly Thr Cys Ile Asn
115 120 125

Pro Ser Asn Trp Cys Asp Gly Val Ser His Cys Pro Gly Gly Glu Asp
130 135 140

Glu Asn Arg Cys Val Arg Leu Tyr Gly Pro Asn Phe Ile Leu Gln Met
145 150 155 160

Tyr Ser Ser Gln Arg Lys Ser Trp His Pro Val Cys Gln Asp Asp Trp
165 170 175

Asn Glu Asn Tyr Gly Arg Ala Ala Cys Arg Asp Met Gly Tyr Lys Asn
180 185 190

Asn Phe Tyr Ser Ser Gln Gly Ile Val Asp Asp Ser Gly Ser Thr Ser
195 200 205

Phe Met Lys Leu Asn Thr Ser Ala Gly Asn Val Asp Ile Tyr Lys Lys
210 215 220

Leu Tyr His Ser Asp Ala Cys Ser Ser Lys Ala Val Val Ser Leu Arg
225 230 235 240

Cys Leu Ala Cys Gly Val Asn Leu Asn Ser Ser Arg Gln Ser Arg Ile
245 250 255

Val Gly Gly Glu Ser Ala Leu Pro Gly Ala Trp Pro Trp Gln Val Ser
260 265 270

Leu His Val Gln Asn Val His Val Cys Gly Gly Ser Ile Ile Thr Pro
275 280 285

Glu Trp Ile Val Thr Ala Ala His Cys Val Glu Lys Pro Leu Asn Asn
290 295 300

Pro Trp His Trp Thr Ala Phe Ala Gly Ile Leu Arg Gln Ser Phe Met
305 310 315 320

Phe Tyr Gly Ala Gly Tyr Gln Val Gln Lys Val Ile Ser His Pro Asn
325 330 335

Tyr Asp Ser Lys Thr Lys Asn Asn Asp Ile Ala Leu Met Lys Leu Gln
340 345 350

Lys Pro Leu Thr Phe Asn Asp Leu Val Lys Pro Val Cys Leu Pro Asn
355 360 365

Pro Gly Met Met Leu Gln Pro Glu Gln Leu Cys Trp Ile Ser Gly Trp
370 375 380

Gly Ala Thr Glu Glu Lys Gly Lys Thr Ser Glu Val Leu Asn Ala Ala
385 390 395 400

Lys Val Leu Leu Ile Glu Thr Gln Arg Cys Asn Ser Arg Tyr Val Tyr
405 410 415

Asp Asn Leu Ile Thr Pro Ala Met Ile Cys Ala Gly Phe Leu Gln Gly
420 425 430

Asn Val Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Thr Ser
435 440 445

Asn Asn Asn Ile Trp Trp Leu Ile Gly Asp Thr Ser Trp Gly Ser Gly
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Cys Ala Lys Ala Tyr Arg Pro Gly Val Tyr Gly Asn Val Met Val Phe
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Thr Asp Trp Ile Tyr Arg Gln Met Lys Ala Asn Gly
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<213> human organism

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<210> 175
<211> 317
<212> PRT
<213> human organism

<400> 175

Met Val Asp Pro Asn Gly Asn Glu Ser Ser Ala Thr Tyr Phe Ile Leu
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Ile Gly Leu Pro Gly Leu Glu Glu Ala Gln Phe Trp Leu Ala Phe Pro
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Leu Cys Ser Leu Tyr Leu Ile Ala Val Leu Gly Asn Leu Thr Ile Ile
35 40 45

Tyr Ile Val Arg Thr Glu His Ser Leu His Glu Pro Met Tyr Ile Phe
50 55 60

Leu Cys Met Leu Ser Gly Ile Asp Ile Leu Ile Ser Thr Ser Ser Met
65 70 75 80

Pro Lys Met Leu Ala Ile Phe Trp Phe Asn Ser Thr Thr Ile Gln Phe
85 90 95

Asp Ala Cys Leu Leu Gln Met Phe Ala Ile His Ser Leu Ser Gly Met
100 105 110

Glu Ser Thr Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
115 120 125

Cys His Pro Leu Arg His Ala Thr Val Leu Thr Leu Pro Arg Val Thr
 130 135 140

Lys Ile Gly Val Ala Ala Val Val Arg Gly Ala Ala Leu Met Ala Pro
 145 150 155 160

Leu Pro Val Phe Ile Lys Gln Leu Pro Phe Cys Arg Ser Asn Ile Leu
 165 170 175

Ser His Ser Tyr Cys Leu His Gln Asp Val Met Lys Leu Ala Cys Asp
 180 185 190

Asp Ile Arg Val Asn Val Val Tyr Gly Leu Ile Val Ile Ile Ser Ala
 195 200 205

Ile Gly Leu Asp Ser Leu Leu Ile Ser Phe Ser Tyr Leu Leu Ile Leu
 210 215 220

Lys Thr Val Leu Gly Leu Thr Arg Glu Ala Gln Ala Lys Ala Phe Gly
 225 230 235 240

Thr Cys Val Ser His Val Cys Ala Val Phe Ile Phe Tyr Val Pro Phe
 245 250 255

Ile Gly Leu Ser Met Val His Arg Phe Ser Lys Arg Arg Asp Ser Pro
 260 265 270

Leu Pro Val Ile Leu Ala Asn Ile Tyr Leu Leu Val Pro Pro Val Leu
 275 280 285

Asn Pro Ile Val Tyr Gly Val Lys Thr Lys Glu Ile Arg Gln Arg Ile
 290 295 300

Leu Arg Leu Phe His Val Ala Thr His Ala Ser Glu Pro
 305 310 315

<210> 176

<211> 2834

<212> DNA

<213> human organism

<400> 176

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ggaaaaaaaa aaaa 2834

<210> 177
<211> 495
<212> PRT
<213> human organism

<400> 177

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Ser Ala Val Thr Arg Leu Val Val Ala Ala Ala Gly Ala Arg Ser Arg
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Gly Gly Arg Gly Gly Ser Arg Gly Ala Gly Gly Gly Gly Arg Gly Gly
35 40 45

Val Ala Arg Arg Arg Arg Leu Glu Leu Arg Ala Ala Arg Ser Leu Leu
50 55 60

Gly Ser Ser Leu Gln Glu Glu Cys Asp Tyr Val Gln Met Ile Glu Val
65 70 75 80

Gln His Lys Gln Cys Leu Glu Glu Ala Gln Leu Glu Asn Glu Thr Ile
85 90 95

Gly Cys Ser Lys Met Trp Asp Asn Leu Thr Cys Trp Pro Ala Thr Pro
100 105 110

Arg Gly Gln Val Val Val Leu Ala Cys Pro Leu Ile Phe Lys Leu Phe
115 120 125

Ser Ser Ile Gln Gly Arg Asn Val Ser Arg Ser Cys Thr Asp Glu Gly
130 135 140

Trp Thr His Leu Glu Pro Gly Pro Tyr Pro Ile Ala Cys Gly Leu Asp
145 150 155 160

Asp Lys Ala Ala Ser Leu Asp Glu Gln Gln Thr Met Phe Tyr Gly Ser
165 170 175

Val Lys Thr Gly Tyr Thr Ile Gly Tyr Gly Leu Ser Leu Ala Thr Leu
180 185 190

Leu Val Ala Thr Ala Ile Leu Ser Leu Phe Arg Lys Leu His Cys Thr
195 200 205

Arg Asn Tyr Ile His Met His Leu Phe Ile Ser Phe Ile Leu Arg Ala
210 215 220

Ala Ala Val Phe Ile Lys Asp Leu Ala Leu Phe Asp Ser Gly Glu Ser
225 230 235 240

Asp Gln Cys Ser Glu Gly Ser Val Gly Cys Lys Ala Ala Met Val Phe
245 250 255

Phe Gln Tyr Cys Val Met Ala Asn Phe Phe Trp Leu Leu Val Glu Gly
260 265 270

Leu Tyr Leu Tyr Thr Leu Leu Ala Val Ser Phe Phe Ser Glu Arg Lys
275 280 285

Tyr Phe Trp Gly Tyr Ile Leu Ile Gly Trp Gly Val Pro Ser Thr Phe
290 295 300

Thr Met Val Trp Thr Ile Ala Arg Ile His Phe Glu Asp Tyr Gly Leu
305 310 315 320

Leu Arg Cys Trp Asp Thr Ile Asn Ser Ser Leu Trp Trp Ile Ile Lys
325 330 335

Gly Pro Ile Leu Thr Ser Ile Leu Val Asn Phe Ile Leu Phe Ile Cys
340 345 350

Ile Ile Arg Ile Leu Leu Gln Lys Leu Arg Pro Pro Asp Ile Arg Lys
355 360 365

Ser Asp Ser Ser Pro Tyr Ser Arg Leu Ala Arg Ser Thr Leu Leu Leu
370 375 380

Ile Pro Leu Phe Gly Val His Tyr Ile Met Phe Ala Phe Phe Pro Asp
385 390 395 400

Asn Phe Lys Pro Glu Val Lys Met Val Phe Glu Leu Val Val Gly Ser
405 410 415

Phe Gln Gly Phe Val Val Ala Ile Leu Tyr Cys Phe Leu Asn Gly Glu
420 425 430

Val Gln Ala Glu Leu Arg Arg Lys Trp Arg Arg Trp His Leu Gln Gly
435 440 445

Val Leu Gly Trp Asn Pro Lys Tyr Arg His Pro Ser Gly Gly Ser Asn
450 455 460

Gly Ala Thr Cys Ser Thr Gln Val Ser Met Leu Thr Arg Val Ser Pro
465 470 475 480

Gly Ala Arg Arg Ser Ser Ser Phe Gln Ala Glu Val Ser Leu Val
485 490 495

<210> 178

<211> 2070

<212> DNA

<213> human organism

<400> 178

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<210> 179
 <211> 689
 <212> PRT
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<400> 179

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Thr Pro Gly Ser Arg Arg Arg Arg Gln Arg Pro Ser Val Gly Val Gln
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Ser Leu Arg Pro Gln Ser Pro Gln Leu Arg Gln Ser Asp Pro Gln Lys
 35 40 45

Arg Asn Leu Asp Leu Glu Lys Ser Leu Gln Phe Leu Gln Gln Gln His
 50 55 60

Ser Glu Met Leu Ala Lys Leu His Glu Glu Ile Glu His Leu Lys Arg
 65 70 75 80

Glu Asn Lys Gly Glu Pro Ala Arg Gly Pro Arg Pro Ala Leu Pro Pro
 85 90 95

Gln Ala His Ser Thr Leu Pro Leu Pro Gln His Arg Asn Thr Ala Ile
 100 105 110

Asn Ser Ser Thr Arg Leu Gly Ser Gly Gly Thr Gln Asp Gly Glu Pro
 115 120 125

Leu Gln Thr Val Leu Ala His Leu Ala Ala Leu Ala Pro Val Cys Gln
130 135 140

Pro Ser Gly Tyr Arg Phe Trp Gly Thr Trp Thr Asp Ala Ala Thr Ser
145 150 155 160

Ser Arg Gly Trp Thr Met Leu Cys Ser Gln Ala Gln His Val Leu Leu
165 170 175

Ser Gly Ser Pro Gly Pro Glu Val Ile Ala Gly Arg Gln Val Ala Thr
180 185 190

Gly Cys Ser Pro Asp Leu Pro Pro Pro Ser Arg Ala Glu Met Gly Arg
195 200 205

Asn Pro Trp Asp Ser Pro Cys Pro Ala Arg Ser Leu Pro Gln Ile Ala
210 215 220

Ala Val Ala Arg Pro Arg Ile Ser Ser Pro Met Ala Leu Ser Pro His
225 230 235 240

Met Leu Gly Ala Gln Gly Ile Trp Thr His Ser Ile Gln Gly Ser Leu
245 250 255

Pro Ala Ile Trp Ala Ala Thr Met Gly Thr Lys Gly Gly Ser Arg Val
260 265 270

Leu Phe Pro Cys His Leu Ser Lys Ala Leu Pro His Pro Asp Ser Gly
275 280 285

Pro His Pro Ala Gln Asp Pro Gly Leu Trp Ser Gln Ala His Phe Pro
290 295 300

Leu Ser Leu Gly Leu Gly Leu Thr Ser Gly Gly His Leu Thr Gly Gly
305 310 315 320

Trp Ser Gln Pro Gly Asn Ile Ala Ala Gly Ala Val Pro Arg Ala Leu
325 330 335

Pro Ser Gln Gly Asp Met Glu Lys Gly Val Glu Gly Gly Pro Phe Pro
340 345 350

Ser Arg Cys Gly Asn Ser Ser Glu Leu Phe Trp Ala Lys Cys Gly Pro
355 360 365

Ser Arg Gln Pro Gln Pro Cys Ser Ala Gly Asp Ala Asp Arg Thr Arg
370 375 380

Glu Glu Ala Met Leu Ser Leu Gly Thr Cys Cys Ser Met Cys Pro Lys
385 390 395 400

Pro Ser Cys Phe Pro Asp Gly Pro Ser Gly Asn His Leu Ser Arg Ala
405 410 415

Ser Ala Pro Leu Gly Ala Arg Trp Val Cys Ile Asn Gly Val Trp Val
420 425 430

Glu Pro Gly Gly Pro Ser Pro Ala Arg Leu Lys Glu Gly Ser Ser Arg
435 440 445

Thr His Arg Pro Gly Gly Lys Arg Gly Arg Leu Ala Gly Gly Ser Ala
450 455 460

Asp Thr Val Arg Ser Pro Ala Asp Ser Leu Ser Met Ser Ser Phe Gln
465 470 475 480

Ser Val Lys Ser Ile Ser Asn Ser Ala Asn Ser Gln Gly Lys Ala Arg
485 490 495

Pro Gln Pro Gly Ser Phe Asn Lys Gln Asp Ser Lys Ala Asp Val Ser
500 505 510

Gln Lys Ala Asp Leu Glu Glu Glu Pro Leu Leu His Asn Ser Lys Leu
515 520 525

Asp Lys Val Pro Gly Val Gln Gly Gln Ala Arg Lys Glu Lys Ala Glu
530 535 540

Ala Ser Asn Ala Gly Ala Ala Cys Met Gly Asn Ser Gln His Gln Gly
545 550 555 560

Arg Gln Met Gly Ala Gly Ala His Pro Pro Met Ile Leu Pro Leu Pro
565 570 575

Leu Arg Lys Pro Thr Thr Leu Arg Gln Cys Glu Val Leu Ile Arg Glu

580

585

590

Leu Trp Asn Thr Asn Leu Leu Gln Thr Gln Glu Leu Arg His Leu Lys
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Ser Leu Leu Glu Gly Ser Gln Arg Pro Gln Ala Ala Pro Glu Glu Ala
 610 615 620

Ser Phe Pro Arg Asp Gln Glu Ala Thr His Phe Pro Lys Val Ser Thr
 625 630 635 640

Lys Ser Leu Ser Lys Lys Cys Leu Ser Pro Pro Val Ala Glu Arg Ala
 645 650 655

Ile Leu Pro Ala Leu Lys Gln Thr Pro Lys Asn Asn Phe Ala Glu Arg
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Gln Lys Arg Leu Gln Ala Met Gln Lys Arg Arg Leu His Arg Ser Val
 675 680 685

Leu

<210> 180
 <211> 3461
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<400> 180
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gcttattcat gtatgttgct ctggttgata tggtaacctga aatgctgcac aatgatgcta	2280
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 tattgccaag ttatatatca ccaaagctg tatgactgga tgttctgggt acctgggtta 3240
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 gagcaattgt ctttatatac ggtactgtag ccatactagg cctgtctgtg gcattctcta 3420
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 <211> 755
 <212> PRT
 <213> human organism

<400> 181

Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu Thr Phe Ala Leu Ser
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Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala Ala Phe Pro Gln Thr
 20 25 30

Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
 35 40 45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
50 55 60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
65 70 75 80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
85 90 95

Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
100 105 110

Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asp His
115 120 125

His Ser His His Asn His Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala
130 135 140

Leu Cys Pro Asp His Asp Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn
145 150 155 160

Ser Gln Gly Lys Gly Ala His Arg Pro Glu His Ala Ser Gly Arg Arg
165 170 175

Asn Val Lys Asp Ser Val Ser Ala Ser Glu Val Thr Ser Thr Val Tyr
180 185 190

Asn Thr Val Ser Glu Gly Thr His Phe Leu Glu Thr Ile Glu Thr Pro
195 200 205

Arg Pro Gly Lys Leu Phe Pro Lys Asp Val Ser Ser Ser Thr Pro Pro
210 215 220

Ser Val Thr Ser Lys Ser Arg Val Ser Arg Leu Ala Gly Arg Lys Thr
225 230 235 240

Asn Glu Ser Val Ser Glu Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn
245 250 255

Thr Asn Glu Asn Pro Gln Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr
260 265 270

Ser His Gly Met Gly Ile Gln Val Pro Leu Asn Ala Thr Glu Phe Asn
275 280 285

Tyr Leu Cys Pro Ala Ile Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu
290 295 300

Ile His Thr Ser Glu Lys Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser
305 310 315 320

Leu Gln Ile Ala Trp Val Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser
325 330 335

Phe Leu Ser Leu Leu Gly Val Ile Leu Val Pro Leu Met Asn Arg Val
340 345 350

Phe Phe Lys Phe Leu Leu Ser Phe Leu Val Ala Leu Ala Val Gly Thr
355 360 365

Leu Ser Gly Asp Ala Phe Leu His Leu Leu Pro His Ser His Ala Ser
370 375 380

His His His Ser His Ser His Glu Glu Pro Ala Met Glu Met Lys Arg
385 390 395 400

Gly Pro Leu Phe Ser His Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala
405 410 415

Tyr Phe Asp Ser Thr Trp Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr
420 425 430

Phe Met Phe Leu Val Glu His Val Leu Thr Leu Ile Lys Gln Phe Lys
435 440 445

Asp Lys Lys Lys Lys Asn Gln Lys Lys Pro Glu Asn Asp Asp Asp Val
450 455 460

Glu Ile Lys Lys Gln Leu Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn
465 470 475 480

Glu Glu Lys Val Asp Thr Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala
485 490 495

Asp Ser Gln Glu Pro Ser His Phe Asp Ser Gln Gln Pro Ala Val Leu
500 505 510

Glu Glu Glu Glu Val Met Ile Ala His Ala His Pro Gln Glu Val Tyr
515 520 525

Asn Glu Tyr Val Pro Arg Gly Cys Lys Asn Lys Cys His Ser His Phe
530 535 540

His Asp Thr Leu Gly Gln Ser Asp Asp Leu Ile His His His His Asp
545 550 555 560

Tyr His His Ile Leu His His His His His Gln Asn His His Pro His
565 570 575

Ser His Ser Gln Arg Tyr Ser Arg Glu Glu Leu Lys Asp Ala Gly Val
580 585 590

Ala Thr Leu Ala Trp Met Val Ile Met Gly Asp Gly Leu His Asn Phe
595 600 605

Ser Asp Gly Leu Ala Ile Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser
610 615 620

Gly Leu Ser Thr Ser Val Ala Val Phe Cys His Glu Leu Pro His Glu
625 630 635 640

Leu Gly Asp Phe Ala Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln
645 650 655

Ala Val Leu Tyr Asn Ala Leu Ser Ala Met Leu Ala Tyr Leu Gly Met
660 665 670

Ala Thr Gly Ile Phe Ile Gly His Tyr Ala Glu Asn Val Ser Met Trp
675 680 685

Ile Phe Ala Leu Thr Ala Gly Leu Phe Met Tyr Val Ala Leu Val Asp
690 695 700

Met Val Pro Glu Met Leu His Asn Asp Ala Ser Asp His Gly Cys Ser
705 710 715 720

Arg Trp Gly Tyr Phe Phe Leu Gln Asn Ala Gly Met Leu Leu Gly Phe

725

730

735

Gly Ile Met Leu Leu Ile Ser Ile Phe Glu His Lys Ile Val Phe Arg
 740 745 750

Ile Asn Phe
 755

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 <211> 2032
 <212> DNA
 <213> human organism

<400> 182
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 cataaccatt tggctctgag ctatgacaag agaggaaaca aaaagttaaa cttacaagcc 240
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<210> 183
 <211> 502
 <212> PRT
 <213> human organism

<400> 183

Met Leu Leu Arg Ser Ala Gly Lys Leu Asn Val Gly Thr Lys Lys Glu
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Asp Gly Glu Ser Thr Ala Pro Thr Pro Arg Pro Lys Val Leu Arg Cys
 20 25 30

Lys Cys His His His Cys Pro Glu Asp Ser Val Asn Asn Ile Cys Ser
 35 40 45

Thr Asp Gly Tyr Cys Phe Thr Met Ile Glu Glu Asp Asp Ser Gly Leu
 50 55 60

Pro Val Val Thr Ser Gly Cys Leu Gly Leu Glu Gly Ser Asp Phe Gln
 65 70 75 80

Cys Arg Asp Thr Pro Ile Pro His Gln Arg Arg Ser Ile Glu Cys Cys

85

90

95

Thr Glu Arg Asn Glu Cys Asn Lys Asp Leu His Pro Thr Leu Pro Pro
 100 105 110

Leu Lys Asn Arg Asp Phe Val Asp Gly Pro Ile His His Arg Ala Leu
 115 120 125

Leu Ile Ser Val Thr Val Cys Ser Leu Leu Leu Val Leu Ile Ile Leu
 130 135 140

Phe Cys Tyr Phe Arg Tyr Lys Arg Gln Glu Thr Arg Pro Arg Tyr Ser
 145 150 155 160

Ile Gly Leu Glu Gln Asp Glu Thr Tyr Ile Pro Pro Gly Glu Ser Leu
 165 170 175

Arg Asp Leu Ile Glu Gln Ser Gln Ser Ser Gly Ser Gly Ser Gly Leu
 180 185 190

Pro Leu Leu Val Gln Arg Thr Ile Ala Lys Gln Ile Gln Met Val Lys
 195 200 205

Gln Ile Gly Lys Gly Arg Tyr Gly Glu Val Trp Met Gly Lys Trp Arg
 210 215 220

Gly Glu Lys Val Ala Val Lys Val Phe Phe Thr Thr Glu Glu Ala Ser
 225 230 235 240

Trp Phe Arg Glu Thr Glu Ile Tyr Gln Thr Val Leu Met Arg His Glu
 245 250 255

Asn Ile Leu Gly Phe Ile Ala Ala Asp Ile Lys Gly Thr Gly Ser Trp
 260 265 270

Thr Gln Leu Tyr Leu Ile Thr Asp Tyr His Glu Asn Gly Ser Leu Tyr
 275 280 285

Asp Tyr Leu Lys Ser Thr Thr Leu Asp Ala Lys Ser Met Leu Lys Leu
 290 295 300

Ala Tyr Ser Ser Val Ser Gly Leu Cys His Leu His Thr Glu Ile Phe
 305 310 315 320

Ser Thr Gln Gly Lys Pro Ala Ile Ala His Arg Asp Leu Lys Ser Lys
325 330 335

Asn Ile Leu Val Lys Lys Asn Gly Thr Cys Cys Ile Ala Asp Leu Gly
340 345 350

Leu Ala Val Lys Phe Ile Ser Asp Thr Asn Glu Val Asp Ile Pro Pro
355 360 365

Asn Thr Arg Val Gly Thr Lys Arg Tyr Met Pro Pro Glu Val Leu Asp
370 375 380

Glu Ser Leu Asn Arg Asn His Phe Gln Ser Tyr Ile Met Ala Asp Met
385 390 395 400

Tyr Ser Phe Gly Leu Ile Leu Trp Glu Val Ala Arg Arg Cys Val Ser
405 410 415

Gly Gly Ile Val Glu Glu Tyr Gln Leu Pro Tyr His Asp Leu Val Pro
420 425 430

Ser Asp Pro Ser Tyr Glu Asp Met Arg Glu Ile Val Cys Ile Lys Lys
435 440 445

Leu Arg Pro Ser Phe Pro Asn Arg Trp Ser Ser Asp Glu Cys Leu Arg
450 455 460

Gln Met Gly Lys Leu Met Thr Glu Cys Trp Ala His Asn Pro Ala Ser
465 470 475 480

Arg Leu Thr Ala Leu Arg Val Lys Lys Thr Leu Ala Lys Met Ser Glu
485 490 495

Ser Gln Asp Ile Lys Leu
500

<210> 184

<211> 3375

<212> DNA

<213> human organism

<400> 184

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accttgaagg tcttc	3375

<210> 185
<211> 807
<212> PRT
<213> human organism

<400> 185

Met Pro Pro Phe Leu Leu Leu Glu Ala Val Cys Val Phe Leu Phe Ser
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Arg Val Pro Pro Ser Leu Pro Leu Gln Glu Val His Val Ser Lys Glu
20 25 30

Thr Ile Gly Lys Ile Ser Ala Ala Ser Lys Met Met Trp Cys Ser Ala
35 40 45

Ala Val Asp Ile Met Phe Leu Leu Asp Gly Ser Asn Ser Val Gly Lys
50 55 60

Gly Ser Phe Glu Arg Ser Lys His Phe Ala Ile Thr Val Cys Asp Gly
65 70 75 80

Leu Asp Ile Ser Pro Glu Arg Val Arg Val Gly Ala Phe Gln Phe Ser
85 90 95

Ser Thr Pro His Leu Glu Phe Pro Leu Asp Ser Phe Ser Thr Gln Gln
100 105 110

Glu Val Lys Ala Arg Ile Lys Arg Met Val Phe Lys Gly Gly Arg Thr
115 120 125

Glu Thr Glu Leu Ala Leu Lys Tyr Leu Leu His Arg Gly Leu Pro Gly
130 135 140

Gly Arg Asn Ala Ser Val Pro Gln Ile Leu Ile Ile Val Thr Asp Gly
145 150 155 160

Lys Ser Gln Gly Asp Val Ala Leu Pro Ser Lys Gln Leu Lys Glu Arg
165 170 175

Gly Val Thr Val Phe Ala Val Gly Val Arg Phe Pro Arg Trp Glu Glu
180 185 190

Leu His Ala Leu Ala Ser Glu Pro Arg Gly Gln His Val Leu Leu Ala
195 200 205

Glu Gln Val Glu Asp Ala Thr Asn Gly Leu Phe Ser Thr Leu Ser Ser
210 215 220

Ser Ala Ile Cys Ser Ser Ala Thr Pro Asp Cys Arg Val Glu Ala His
225 230 235 240

Pro Cys Glu His Arg Thr Leu Glu Met Val Arg Glu Phe Ala Gly Asn
245 250 255

Ala Pro Cys Trp Arg Gly Ser Arg Arg Thr Leu Ala Val Leu Ala Ala
260 265 270

His Cys Pro Phe Tyr Ser Trp Lys Arg Val Phe Leu Thr His Pro Ala
275 280 285

Thr Cys Tyr Arg Thr Thr Cys Pro Gly Pro Cys Asp Ser Gln Pro Cys
290 295 300

Gln Asn Gly Gly Thr Cys Val Pro Glu Gly Leu Asp Gly Tyr Gln Cys
305 310 315 320

Leu Cys Pro Leu Ala Phe Gly Gly Glu Ala Asn Cys Ala Leu Lys Leu
325 330 335

Ser Leu Glu Cys Arg Val Asp Leu Leu Phe Leu Leu Asp Ser Ser Ala
340 345 350

Gly Thr Thr Leu Asp Gly Phe Leu Arg Ala Lys Val Phe Val Lys Arg
355 360 365

Phe Val Arg Ala Val Leu Ser Glu Asp Ser Arg Ala Arg Val Gly Val
370 375 380

Ala Thr Tyr Ser Arg Glu Leu Leu Val Ala Val Pro Val Gly Glu Tyr
385 390 395 400

Gln Asp Val Pro Asp Leu Val Trp Ser Leu Asp Gly Ile Pro Phe Arg
405 410 415

Gly Gly Pro Thr Leu Thr Gly Ser Ala Leu Arg Gln Ala Ala Glu Arg
420 425 430

Gly Phe Gly Ser Ala Thr Arg Thr Gly Gln Asp Arg Pro Arg Arg Val
435 440 445

Val Val Leu Leu Thr Glu Ser His Ser Glu Asp Glu Val Ala Gly Pro
450 455 460

Ala Arg His Ala Arg Ala Arg Glu Leu Leu Leu Leu Gly Val Gly Ser
465 470 475 480

Glu Ala Val Arg Ala Glu Leu Glu Glu Ile Thr Gly Ser Pro Lys His
485 490 495

Val Met Val Tyr Ser Asp Pro Gln Asp Leu Phe Asn Gln Ile Pro Glu
500 505 510

Leu Gln Gly Lys Leu Cys Ser Arg Gln Arg Pro Gly Cys Arg Thr Gln
515 520 525

Ala Leu Asp Leu Val Phe Met Leu Asp Thr Ser Ala Ser Val Gly Pro
530 535 540

Glu Asn Phe Ala Gln Met Gln Ser Phe Val Arg Ser Cys Ala Leu Gln
545 550 555 560

Phe Glu Val Asn Pro Asp Val Thr Gln Val Gly Leu Val Val Tyr Gly
565 570 575

Ser Gln Val Gln Thr Ala Phe Gly Leu Asp Thr Lys Pro Thr Arg Ala
580 585 590

Ala Met Leu Arg Ala Ile Ser Gln Ala Pro Tyr Leu Gly Gly Val Gly
595 600 605

Ser Ala Gly Thr Ala Leu Leu His Ile Tyr Asp Lys Val Met Thr Val
610 615 620

Gln Arg Gly Ala Arg Pro Gly Val Pro Lys Ala Val Val Val Leu Thr
625 630 635 640

Gly Gly Arg Gly Ala Glu Asp Ala Ala Val Pro Ala Gln Lys Leu Arg
645 650 655

Asn Asn Gly Ile Ser Val Leu Val Val Gly Val Gly Pro Val Leu Ser
660 665 670

Glu Gly Leu Arg Arg Leu Ala Gly Pro Arg Asp Ser Leu Ile His Val
675 680 685

Ala Ala Tyr Ala Asp Leu Arg Tyr His Gln Asp Val Leu Ile Glu Trp
690 695 700

Leu Cys Gly Glu Ala Lys Gln Pro Val Asn Leu Cys Lys Pro Ser Pro
705 710 715 720

Cys Met Asn Glu Gly Ser Cys Val Leu Gln Asn Gly Ser Tyr Arg Cys
725 730 735

Lys Cys Arg Asp Gly Trp Glu Gly Pro His Cys Glu Asn Arg Glu Trp
740 745 750

Ser Ser Cys Ser Val Cys Val Ser Gln Gly Trp Ile Leu Glu Thr Pro
755 760 765

Leu Arg His Met Ala Pro Val Gln Glu Gly Ser Ser Arg Thr Pro Pro
770 775 780

Ser Asn Tyr Arg Glu Gly Leu Gly Thr Glu Met Val Pro Thr Phe Trp
785 790 795 800

Asn Val Cys Ala Pro Gly Pro
805

<210> 186
<211> 1723
<212> DNA
<213> human organism

<400> 186
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tcgtggcggg caatgtgctg gtgatcgtgg ccatcgccaa gacgccgcgg ctgcagacgc 360

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Leu Val Pro Ala Ser Pro Pro Ala Ser Leu Leu Pro Pro Ala Ser Glu
35 40 45

Ser Pro Glu Pro Leu Ser Gln Gln Trp Thr Ala Gly Met Gly Leu Leu
50 55 60

Met Ala Leu Ile Val Leu Leu Ile Val Ala Gly Asn Val Leu Val Ile
65 70 75 80

Val Ala Ile Ala Lys Thr Pro Arg Leu Gln Thr Leu Thr Asn Leu Phe
85 90 95

Ile Met Ser Leu Ala Ser Ala Asp Leu Val Met Gly Leu Leu Val Val
100 105 110

Pro Phe Gly Ala Thr Ile Val Val Trp Gly Arg Trp Glu Tyr Gly Ser
115 120 125

Phe Phe Cys Glu Leu Trp Thr Ser Val Asp Val Leu Cys Val Thr Ala
130 135 140

Ser Ile Glu Thr Leu Cys Val Ile Ala Leu Asp Arg Tyr Leu Ala Ile
145 150 155 160

Thr Ser Pro Phe Arg Tyr Gln Ser Leu Leu Thr Arg Ala Arg Ala Arg
165 170 175

Gly Leu Val Cys Thr Val Trp Ala Ile Ser Ala Leu Val Ser Phe Leu
180 185 190

Pro Ile Leu Met His Trp Trp Arg Ala Glu Ser Asp Glu Ala Arg Arg
195 200 205

Cys Tyr Asn Asp Pro Lys Cys Cys Asp Phe Val Thr Asn Arg Ala Tyr
210 215 220

Ala Ile Ala Ser Ser Val Val Ser Phe Tyr Val Pro Leu Cys Ile Met
225 230 235 240

Ala Phe Val Tyr Leu Arg Val Phe Arg Glu Ala Gln Lys Gln Val Lys
245 250 255

Lys Ile Asp Ser Cys Glu Arg Arg Phe Leu Gly Gly Pro Ala Arg Pro
260 265 270

Pro Ser Pro Ser Pro Ser Pro Val Pro Ala Pro Ala Pro Pro Pro Gly
275 280 285

Pro Pro Arg Pro Ala Ala Ala Ala Ala Thr Ala Pro Leu Ala Asn Gly
290 295 300

Arg Ala Gly Lys Arg Arg Pro Ser Arg Leu Val Ala Leu Arg Glu Gln
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Lys Ala Leu Lys Thr Leu Gly Ile Ile Met Gly Val Phe Thr Leu Cys
325 330 335

Trp Leu Pro Phe Phe Leu Ala Asn Val Val Lys Ala Phe His Arg Glu
340 345 350

Leu Val Pro Asp Arg Leu Phe Val Phe Phe Asn Trp Leu Gly Tyr Ala
355 360 365

Asn Ser Ala Phe Asn Pro Ile Ile Tyr Cys Arg Ser Pro Asp Phe Arg
370 375 380

Lys Ala Phe Gln Gly Leu Leu Cys Cys Ala Arg Arg Ala Ala Arg Arg
385 390 395 400

Arg His Ala Thr His Gly Asp Arg Pro Arg Ala Ser Gly Cys Leu Ala
405 410 415

Arg Pro Gly Pro Pro Pro Ser Pro Gly Ala Ala Ser Asp Asp Asp Asp
420 425 430

Asp Asp Val Val Gly Ala Thr Pro Pro Ala Arg Leu Leu Glu Pro Trp
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Glu Pro Cys Arg Pro Gly Phe Ala Ser Glu Ser Lys Val
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 <213> human organism

<400> 189

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Pro Pro Gly Arg Gly Arg Ala Ala Gly Pro Gln Glu Asp Val Asp Glu
 35 40 45

Cys Ala Gln Gly Leu Asp Asp Cys His Ala Asp Ala Leu Cys Gln Asn
 50 55 60

Thr Pro Thr Ser Tyr Lys Cys Ser Cys Lys Pro Gly Tyr Gln Gly Glu
 65 70 75 80

Gly Arg Gln Cys Glu Asp Ile Asp Glu Cys Gly Asn Glu Leu Asn Gly
 85 90 95

Gly Cys Val His Asp Cys Leu Asn Ile Pro Gly Asn Tyr Arg Cys Thr
 100 105 110

Cys Phe Asp Gly Phe Met Leu Ala His Asp Gly His Asn Cys Leu Asp
115 120 125

Val Asp Glu Cys Leu Glu Asn Asn Gly Gly Cys Gln His Thr Cys Val
130 135 140

Asn Val Met Gly Ser Tyr Glu Cys Cys Cys Lys Glu Gly Phe Phe Leu
145 150 155 160

Ser Asp Asn Gln His Thr Cys Ile His Arg Ser Glu Glu Gly Leu Ser
165 170 175

Cys Met Asn Lys Asp His Gly Cys Ser His Ile Cys Lys Glu Ala Pro
180 185 190

Arg Gly Ser Val Ala Cys Glu Cys Arg Pro Gly Phe Glu Leu Ala Lys
195 200 205

Asn Gln Arg Asp Cys Ile Leu Thr Cys Asn His Gly Asn Gly Gly Cys
210 215 220

Gln His Ser Cys Asp Asp Thr Ala Asp Gly Pro Glu Cys Ser Cys His
225 230 235 240

Pro Gln Tyr Lys Met His Thr Asp Gly Arg Ser Cys Leu Glu Arg Glu
245 250 255

Asp Thr Val Leu Glu Val Thr Glu Ser Asn Thr Thr Ser Val Val Asp
260 265 270

Gly Asp Lys Arg Val Lys Arg Arg Leu Leu Met Glu Thr Cys Ala Val
275 280 285

Asn Asn Gly Gly Cys Asp Arg Thr Cys Lys Asp Thr Ser Thr Gly Val
290 295 300

His Cys Ser Cys Pro Val Gly Phe Thr Leu Gln Leu Asp Gly Lys Thr
305 310 315 320

Cys Lys Asp Ile Asp Glu Cys Gln Thr Arg Asn Gly Gly Cys Asp His
325 330 335

Phe Cys Lys Asn Ile Val Gly Ser Phe Asp Cys Gly Cys Lys Lys Gly
340 345 350

Phe Lys Leu Leu Thr Asp Glu Lys Ser Cys Gln Asp Val Asp Glu Cys
355 360 365

Ser Leu Asp Arg Thr Cys Asp His Ser Cys Ile Asn His Pro Gly Thr
370 375 380

Phe Ala Cys Ala Cys Asn Arg Gly Tyr Thr Leu Tyr Gly Phe Thr His
385 390 395 400

Cys Gly Asp Thr Asn Glu Cys Ser Ile Asn Asn Gly Gly Cys Gln Gln
405 410 415

Val Cys Val Asn Thr Val Gly Ser Tyr Glu Cys Gln Cys His Pro Gly
420 425 430

Tyr Lys Leu His Trp Asn Lys Lys Asp Cys Val Glu Val Lys Gly Leu
435 440 445

Leu Pro Thr Ser Val Ser Pro Arg Val Ser Leu His Cys Gly Lys Ser
450 455 460

Gly Gly Gly Asp Gly Cys Phe Leu Arg Cys His Ser Gly Ile His Leu
465 470 475 480

Ser Ser Asp Val Thr Thr Ile Arg Thr Ser Val Thr Phe Lys Leu Asn
485 490 495

Glu Gly Lys Cys Ser Leu Lys Asn Ala Glu Leu Phe Pro Glu Gly Leu
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Arg Pro Ala Leu Pro Glu Lys His Ser Ser Val Lys Glu Ser Phe Arg
515 520 525

Tyr Val Asn Leu Thr Cys Ser Ser Gly Lys Gln Val Pro Gly Ala Pro
530 535 540

Gly Arg Pro Ser Thr Pro Lys Glu Met Phe Ile Thr Val Glu Phe Glu
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Leu Glu Thr Asn Gln Lys Glu Val Thr Ala Ser Cys Asp Leu Ser Cys

565

570

575

Ile Val Lys Arg Thr Glu Lys Arg Leu Arg Lys Ala Ile Arg Thr Leu
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Arg Lys Ala Val His Arg Glu Gln Phe His Leu Gln Leu Ser Gly Met
 595 600 605

Asn Leu Asp Val Ala Lys Lys Pro Pro Arg Thr Ser Glu Arg Gln Ala
 610 615 620

Glu Ser Cys Gly Val Gly Gln Gly His Ala Glu Asn Gln Cys Val Ser
 625 630 635 640

Cys Arg Ala Gly Thr Tyr Tyr Asp Gly Ala Arg Glu Arg Cys Ile Leu
 645 650 655

Cys Pro Asn Gly Thr Phe Gln Asn Glu Glu Gly Gln Met Thr Cys Glu
 660 665 670

Pro Cys Pro Arg Pro Gly Asn Ser Gly Ala Leu Lys Thr Pro Glu Ala
 675 680 685

Trp Asn Met Ser Glu Cys Gly Gly Leu Cys Gln Pro Gly Glu Tyr Ser
 690 695 700

Ala Asp Gly Phe Ala Pro Cys Gln Leu Cys Ala Leu Gly Thr Phe Gln
 705 710 715 720

Pro Glu Ala Gly Arg Thr Ser Cys Phe Pro Cys Gly Gly Gly Leu Ala
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Thr Lys His Gln Gly Ala Thr Ser Phe Gln Asp Cys Glu Thr Arg Val
 740 745 750

Gln Cys Ser Pro Gly His Phe Tyr Asn Thr Thr Thr His Arg Cys Ile
 755 760 765

Arg Cys Pro Val Gly Thr Tyr Gln Pro Glu Phe Gly Lys Asn Asn Cys
 770 775 780

Val Ser Cys Pro Gly Asn Thr Thr Thr Asp Phe Asp Gly Ser Thr Asn
 785 790 795 800

Ile Thr Gln Cys Lys Asn Arg Arg Cys Gly Gly Glu Leu Gly Asp Phe
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Thr Gly Tyr Ile Glu Ser Pro Asn Tyr Pro Gly Asn Tyr Pro Ala Asn
820 825 830

Thr Glu Cys Thr Trp Thr Ile Asn Pro Pro Pro Lys Arg Arg Ile Leu
835 840 845

Ile Val Val Pro Glu Ile Phe Leu Pro Ile Glu Asp Asp Cys Gly Asp
850 855 860

Tyr Leu Val Met Arg Lys Thr Ser Ser Ser Asn Ser Val Thr Thr Tyr
865 870 875 880

Glu Thr Cys Gln Thr Tyr Glu Arg Pro Ile Ala Phe Thr Ser Arg Ser
885 890 895

Lys Lys Leu Trp Ile Gln Phe Lys Ser Asn Glu Gly Asn Ser Ala Arg
900 905 910

Gly Phe Gln Val Pro Tyr Val Thr Tyr Asp Glu Asp Tyr Gln Glu Leu
915 920 925

Ile Glu Asp Ile Val Arg Asp Gly Arg Leu Tyr Ala Ser Glu Asn His
930 935 940

Gln Glu Ile Leu Lys Asp Lys Lys Leu Ile Lys Ala Leu Phe Asp Val
945 950 955 960

Leu Ala His Pro Gln Asn Tyr Phe Lys Tyr Thr Ala Gln Glu Ser Arg
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Glu Met Phe Pro Arg Ser Phe Ile Arg Leu Leu Arg Ser Lys Val Ser
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Arg Phe Leu Arg Pro Tyr Lys
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<213> human organism

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<212> PRT
<213> human organism

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<400> 191

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Ser Tyr Leu Lys Pro Arg Thr Lys Glu Ser Met Tyr His Ser Leu Thr
20           25           30

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Tyr Ala Thr Ile Leu Glu Met Gln Ala Met Met Thr Phe Asp Pro Gln
35           40           45

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Asp Ile Leu Leu Ala Gly Asn Met Met Lys Glu Ala Gln Met Leu Cys

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50

55

60

Gln Arg His Arg Arg Lys Ser Ser Val Thr Asp Ser Phe Ser Ser Leu
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Val Asn Arg Pro Thr Leu Gly Gln Phe Thr Glu Glu Glu Ile His Ala
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Glu Val Cys Tyr Ala Glu Cys Leu Leu Gln Arg Ala Ala Leu Thr Phe
100 105 110

Leu Gln Asp Glu Asn Met Val Ser Phe Ile Lys Gly Gly Ile Lys Val
115 120 125

Arg Asn Ser Tyr Gln Thr Tyr Lys Glu Leu Asp Ser Leu Val Gln Ser
130 135 140

Ser Gln Tyr Cys Lys Gly Glu Asn His Pro His Phe Glu Gly Gly Val
145 150 155 160

Lys Leu Gly Val Gly Ala Phe Asn Leu Thr Leu Ser Met Leu Pro Thr
165 170 175

Arg Ile Leu Arg Leu Leu Glu Phe Val Gly Phe Ser Gly Asn Lys Asp
180 185 190

Tyr Gly Leu Leu Gln Leu Glu Glu Gly Ala Ser Gly His Ser Phe Arg
195 200 205

Ser Val Leu Cys Val Met Leu Leu Leu Cys Tyr His Thr Phe Leu Thr
210 215 220

Phe Val Leu Gly Thr Gly Asn Val Asn Ile Glu Glu Ala Glu Lys Leu
225 230 235 240

Leu Lys Pro Tyr Leu Asn Arg Tyr Pro Lys Gly Ala Ile Phe Leu Phe
245 250 255

Phe Ala Gly Arg Ile Glu Val Ile Lys Gly Asn Ile Asp Ala Ala Ile
260 265 270

Arg Arg Phe Glu Glu Cys Cys Glu Ala Gln Gln His Trp Lys Gln Phe
275 280 285

His His Met Cys Tyr Trp Glu Leu Met Trp Cys Phe Thr Tyr Lys Gly
290 295 300

Gln Trp Lys Met Ser Tyr Phe Tyr Ala Asp Leu Leu Ser Lys Glu Asn
305 310 315 320

Cys Trp Ser Lys Ala Thr Tyr Ile Tyr Met Lys Ala Ala Tyr Leu Ser
325 330 335

Met Phe Gly Lys Glu Asp His Lys Pro Phe Gly Asp Asp Glu Val Glu
340 345 350

Leu Phe Arg Ala Val Pro Gly Leu Lys Leu Lys Ile Ala Gly Lys Ser
355 360 365

Leu Pro Thr Glu Lys Phe Ala Ile Arg Lys Ser Arg Arg Tyr Phe Ser
370 375 380

Ser Asn Pro Ile Ser Leu Pro Val Pro Ala Leu Glu Met Met Tyr Ile
385 390 395 400

Trp Asn Gly Tyr Ala Val Ile Gly Lys Gln Pro Lys Leu Thr Asp Gly
405 410 415

Ile Leu Glu Ile Ile Thr Lys Ala Glu Glu Met Leu Glu Lys Gly Pro
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Glu Asn Glu Tyr Ser Val Asp Asp Glu Cys Leu Val Lys Leu Leu Lys
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Gly Leu Cys Leu Lys Tyr Leu Gly Arg Val Gln Glu Ala Glu Glu Asn
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Phe Arg Ser Ile Ser Ala Asn Glu Lys Lys Ile Lys Tyr Asp His Tyr
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Leu Ile Pro Asn Ala Leu Leu Glu Leu Ala Leu Leu Leu Met Glu Gln
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Asp Arg Asn Glu Glu Ala Ile Lys Leu Leu Glu Ser Ala Lys Gln Asn
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Tyr Lys Asn Tyr Ser Met Glu Ser Arg Thr His Phe Arg Ile Gln Ala
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35 40 45

Asn Pro Glu Ala Pro Gly Arg Ala Ala Val Pro Pro Trp Gly Lys Tyr
50 55 60

Asp Ala Ala Leu Arg Thr Met Ile Pro Phe Arg Pro Lys Pro Arg Phe
65 70 75 80

Pro Ala Pro Gln Pro Leu Asp Asn Ala Gly Leu Phe Ser Tyr Leu Thr
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Val Ser Trp Leu Thr Pro Leu Met Ile Gln Ser Leu Arg Ser Arg Leu
100 105 110

Asp Glu Asn Thr Ile Pro Pro Leu Ser Val His Asp Ala Ser Asp Lys
115 120 125

Asn Val Gln Arg Leu His Arg Leu Trp Glu Glu Glu Val Ser Arg Arg
130 135 140

Gly Ile Glu Lys Ala Ser Val Leu Leu Val Met Leu Arg Phe Gln Arg
145 150 155 160

Thr Arg Leu Ile Phe Asp Ala Leu Leu Gly Ile Cys Phe Cys Ile Ala
165 170 175

Ser Val Leu Gly Pro Ile Leu Ile Ile Pro Lys Ile Leu Glu Tyr Ser
180 185 190

Glu Glu Gln Leu Gly Asn Val Val His Gly Val Gly Leu Cys Phe Ala
195 200 205

Leu Phe Leu Ser Glu Cys Val Lys Ser Leu Ser Phe Ser Ser Ser Trp

210

215

220

Ile Ile Asn Gln Arg Thr Ala Ile Arg Phe Arg Ala Ala Val Ser Ser
 225 230 235 240

Phe Ala Phe Glu Lys Leu Ile Gln Phe Lys Ser Val Ile His Ile Thr
 245 250 255

Ser Gly Glu Ala Ile Ser Phe Phe Thr Gly Asp Val Asn Tyr Leu Phe
 260 265 270

Glu Gly Val Cys Tyr Gly Pro Leu Val Leu Ile Thr Cys Ala Ser Leu
 275 280 285

Val Ile Cys Ser Ile Ser Ser Tyr Phe Ile Ile Gly Tyr Thr Ala Phe
 290 295 300

Ile Ala Ile Leu Cys Tyr Leu Leu Val Phe Pro Leu Ala Val Phe Met
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Thr Arg Met Ala Val Lys Ala Gln His His Thr Ser Glu Val Ser Asp
 325 330 335

Gln Arg Ile Arg Val Thr Ser Glu Val Leu Thr Cys Ile Lys Leu Ile
 340 345 350

Lys Met Tyr Thr Trp Glu Lys Pro Phe Ala Lys Ile Ile Glu Gly Met
 355 360 365

Glu Ser Leu Thr Phe Cys Ser Lys Pro Gly Asp Gly Met Ala Phe Ser
 370 375 380

Met Leu Ala Ser Leu Asn Leu Leu Arg Leu Ser Val Phe Phe Val Pro
 385 390 395 400

Ile Ala Val Lys Gly Leu Thr Asn Ser Lys Ser Ala Val Met Arg Phe
 405 410 415

Lys Lys Phe Phe Leu Gln Glu Ser Pro Val Phe Tyr Val Gln Thr Leu
 420 425 430

Gln Asp Pro Ser Lys Ala Leu Val Phe Glu Glu Ala Thr Leu Ser Trp
 435 440 445

Gln Gln Thr Cys Pro Gly Ile Val Asn Gly Ala Leu Glu Leu Glu Arg
450 455 460

Asn Gly His Ala Ser Glu Gly Met Thr Arg Pro Arg Asp Ala Leu Gly
465 470 475 480

Pro Glu Glu Glu Gly Asn Ser Leu Gly Pro Glu Leu His Lys Ile Asn
485 490 495

Leu Val Val Ser Lys Gly Met Met Leu Gly Val Cys Gly Asn Thr Gly
500 505 510

Ser Gly Lys Ser Ser Leu Leu Ser Ala Ile Leu Glu Glu Met His Leu
515 520 525

Leu Glu Gly Ser Val Gly Val Gln Gly Ser Leu Ala Tyr Val Pro Gln
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Gln Ala Trp Ile Val Ser Gly Asn Ile Arg Glu Asn Ile Leu Met Gly
545 550 555 560

Gly Ala Tyr Asp Lys Ala Arg Tyr Leu Gln Val Leu His Cys Cys Ser
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580 585 590

Gly Glu Arg Gly Leu Asn Leu Ser Gly Gly Gln Lys Gln Arg Ile Ser
595 600 605

Leu Ala Arg Ala Val Tyr Ser Asp Arg Gln Ile Tyr Leu Leu Asp Asp
610 615 620

Pro Leu Ser Ala Val Asp Ala His Val Gly Lys His Ile Phe Glu Glu
625 630 635 640

Cys Ile Lys Lys Thr Leu Arg Gly Lys Thr Val Val Leu Val Thr His
645 650 655

Gln Leu Gln Tyr Leu Glu Phe Cys Gly Gln Ile Ile Leu Leu Glu Asn
660 665 670

Gly Lys Ile Cys Glu Asn Gly Thr His Ser Glu Leu Met Gln Lys Lys
675 680 685

Gly Lys Tyr Ala Gln Leu Ile Gln Lys Met His Lys Glu Ala Thr Ser
690 695 700

Asp Met Leu Gln Asp Thr Ala Lys Ile Ala Glu Lys Pro Lys Val Glu
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Ser Gln Ala Leu Ala Thr Ser Leu Glu Glu Ser Leu Asn Gly Asn Ala
725 730 735

Val Pro Glu His Gln Leu Thr Gln Glu Glu Glu Met Glu Glu Gly Ser
740 745 750

Leu Ser Trp Arg Val Tyr His His Tyr Ile Gln Ala Ala Gly Gly Tyr
755 760 765

Met Val Ser Cys Ile Ile Phe Phe Phe Val Val Leu Ile Val Phe Leu
770 775 780

Thr Ile Phe Ser Phe Trp Trp Leu Ser Tyr Trp Leu Glu Gln Gly Ser
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Gly Thr Asn Ser Ser Arg Glu Ser Asn Gly Thr Met Ala Asp Leu Gly
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820 825 830

Leu Asn Ala Leu Leu Leu Ile Cys Val Gly Val Cys Ser Ser Gly Ile
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850 855 860

Phe Asn Lys Val Phe Arg Cys Pro Met Ser Phe Phe Asp Thr Ile Pro
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Gln Leu Leu Pro Ile Phe Ser Glu Gln Phe Leu Val Leu Ser Leu Met
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Val Ile Ala Val Leu Leu Ile Val Ser Val Leu Ser Pro Tyr Ile Leu
915 920 925

Leu Met Gly Ala Ile Ile Met Val Ile Cys Phe Ile Tyr Tyr Met Met
930 935 940

Phe Lys Lys Ala Ile Gly Val Phe Lys Arg Leu Glu Asn Tyr Ser Arg
945 950 955 960

Ser Pro Leu Phe Ser His Ile Leu Asn Ser Leu Gln Gly Leu Ser Ser
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Ile His Val Tyr Gly Lys Thr Glu Asp Phe Ile Ser Gln Phe Lys Arg
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Arg Trp Met Ala Leu Arg Leu Glu Ile Met Thr Asn Leu Val Thr
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Leu Ala Val Ala Leu Phe Val Ala Phe Gly Ile Ser Ser Thr Pro
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Tyr Ser Phe Lys Val Met Ala Val Asn Ile Val Leu Gln Leu Ala
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Ser Ser Phe Gln Ala Thr Ala Arg Ile Gly Leu Glu Thr Glu Ala
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Gln Phe Thr Ala Val Glu Arg Ile Leu Gln Tyr Met Lys Met Cys
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Val Ser Glu Ala Pro Leu His Met Glu Gly Thr Ser Cys Pro Gln
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Gly Trp Pro Gln His Gly Glu Ile Ile Phe Gln Asp Tyr His Met
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Lys Tyr Arg Asp Asn Thr Pro Thr Val Leu His Gly Ile Asn Leu

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Pro Met Ala Gly Arg Ile Leu	Ile Asp Gly Val Asp	Ile Cys Ser
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Ile Gly Leu Glu Asp Leu Arg	Ser Lys Leu Ser Val	Ile Pro Gln
1175	1180	1185
Asp Pro Val Leu Leu Ser Gly	Thr Ile Arg Phe Asn	Leu Asp Pro
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Phe Asp Arg His Thr Asp Gln	Gln Ile Trp Asp Ala	Leu Glu Arg
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Thr Phe Leu Thr Lys Ala Ile	Ser Lys Phe Pro Lys	Lys Leu His
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Thr Leu Ile Gln Arg Thr Ile	Arg Glu Ala Phe Gln	Gly Cys Thr
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Val Leu Val Ile Ala His Arg	Val Thr Thr Val Leu	Asn Cys Asp
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His Ile Leu Val Met Gly Asn	Gly Lys Val Val Glu	Phe Asp Arg
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Pro Glu Val Leu Arg Lys Lys	Pro Gly Ser Leu Phe	Ala Ala Leu
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Met Ala Thr Ala Thr Ser Ser Leu Arg
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 <212> PRT
 <213> human organism

<400> 195

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 35 40 45

Glu Ala Ala Gly Leu Leu Trp Asp Arg Ala Ala Ala Gly Glu Ala Glu
 50 55 60

Lys Gly Asn Arg Gly Glu Pro Pro Ala Trp Ile Arg Ala Gln Gln Gln
 65 70 75 80

Pro Arg Pro Pro Pro Ala Gly Gln Ala Pro Gly Thr Ala Ala Gly Gly
 85 90 95

Ala Gln Asp Pro Arg Leu Arg Pro Gly Arg Ser Arg Gly Arg Val Arg
 100 105 110

Leu Pro Val Lys Pro Pro Glu Ala Ser Gly Arg Gln Pro Arg Gly Pro
115 120 125

Ser Asp Cys Ile Pro Arg Phe Pro Ser Ala Ser Ala Thr His Lys Ala
130 135 140

Val Pro Lys Gly Thr Gly Pro Pro Ala Glu Asp Gly Asp Gly Leu Gly
145 150 155 160

Ala Pro Gly Pro Arg Ala Arg Arg Arg Arg Leu Leu Gly Val Ala Ala
165 170 175

Glu Gly Ser Gly Pro Arg Gly Lys Arg Arg Gly Thr Val Ser Asp Glu
180 185 190

Ala Arg Gly Ser Pro Gly Pro Arg Leu Leu Gly Asp Arg Pro Ala Leu
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Ser Gly Asp Ala Leu Ser Ala Pro Arg Val Val Pro Cys Gly Ala Leu
210 215 220

Ala Ala Arg Pro Ser Pro His Pro Gly Thr Pro Leu Arg Ser Cys Ser
225 230 235 240

Cys Cys Trp Leu Arg Cys Trp Arg Arg Gly Arg Gly Pro Ser Gly Glu
245 250 255

Tyr Cys His Gly Trp Leu Asp Ala Gln Gly Val Trp Arg Ile Gly Phe
260 265 270

Gln Cys Pro Glu Arg Phe Asp Gly Gly Asp Ala Thr Ile Cys Cys Gly
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Ser Cys Ala Leu Arg Tyr Cys Cys Ser Ser Ala Glu Ala Arg Leu Asp
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Gln Gly Gly Cys Asp Asn Asp Arg Gln Gln Gly Ala Gly Glu Pro Gly
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Arg Ala Asp Lys Asp Gly Pro Arg Arg Leu Gly Arg Ala Ser Cys Leu
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Arg Gly Thr Gln Gly Asp Gly Glu Gly Ala Pro Pro Pro Val Arg Ala
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Trp Gln Arg Cys Ser Pro Glu Gly Ser Pro Lys Gly Arg Gln Leu Leu
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Arg Ala Phe Pro Gly Leu Leu Pro Arg Ala Arg Arg Arg Gly Phe Pro
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Ile Tyr Val Pro Phe Leu Ile Val Gly Ser Val Phe Val Ala Phe Ile
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Ile Leu Gly Ser Leu Val Ala Ala Cys Cys Cys Arg Cys Leu Arg Pro
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Lys Gln Asp Pro Gln Gln Ser Arg Ala Pro Gly Gly Asn Arg Leu Met
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Glu Thr Ile Pro Met Ile Pro Ser Ala Ser Thr Ser Arg Gly Ser Ser
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Ser Arg Gln Ser Ser Thr Ala Ala Ser Ser Ser Ser Ser Ala Asn Ser
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Gly Ala Arg Ala Pro Pro Thr Arg Ser Gln Thr Asn Cys Cys Leu Pro
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Glu Gly Thr Met Asn Asn Val Tyr Val Asn Met Pro Thr Asn Phe Ser
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Val Leu Asn Cys Gln Gln Ala Thr Gln Ile Val Pro His Gln Gly Gln
515 520 525

Tyr Leu His Pro Pro Tyr Val Gly Tyr Thr Val Gln His Asp Ser Val
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Pro Met Thr Ala Val Pro Pro Phe Met Asp Gly Leu Gln Pro Gly Tyr
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Tyr Pro Ala Val Thr Val
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<212> DNA

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3096

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<211> 3171
<212> DNA
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3171

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35 40 45

Gln Ala Leu Gly Lys Val Phe Met Gly Cys Pro Gly Gln Glu Pro Ala
50 55 60

Leu Phe Ser Thr Asp Asn Asp Asp Phe Thr Val Arg Asn Gly Glu Thr
65 70 75 80

Val Gln Glu Arg Arg Ser Leu Lys Glu Arg Asn Pro Leu Lys Ile Phe
85 90 95

Pro Ser Lys Arg Ile Leu Arg Arg His Lys Arg Asp Trp Val Val Ala
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Pro Ile Ser Val Pro Glu Asn Gly Lys Gly Pro Phe Pro Gln Arg Leu
115 120 125

Asn Gln Leu Lys Ser Asn Lys Asp Arg Asp Thr Lys Ile Phe Tyr Ser
130 135 140

Ile Thr Gly Pro Gly Ala Asp Ser Pro Pro Glu Gly Val Phe Ala Val
145 150 155 160

Glu Lys Glu Thr Gly Trp Leu Leu Leu Asn Lys Pro Leu Asp Arg Glu
165 170 175

Glu Ile Ala Lys Tyr Glu Leu Phe Gly His Ala Val Ser Glu Asn Gly
180 185 190

Ala Ser Val Glu Asp Pro Met Asn Ile Ser Ile Ile Val Thr Asp Gln
195 200 205

Asn Asp His Lys Pro Lys Phe Thr Gln Asp Thr Phe Arg Gly Ser Val
210 215 220

Leu Glu Gly Val Leu Pro Gly Thr Ser Val Met Gln Val Thr Ala Thr
225 230 235 240

Asp Glu Asp Asp Ala Ile Tyr Thr Tyr Asn Gly Val Val Ala Tyr Ser
245 250 255

Ile His Ser Gln Glu Pro Lys Asp Pro His Asp Leu Met Phe Thr Ile
260 265 270

His Arg Ser Thr Gly Thr Ile Ser Val Ile Ser Ser Gly Leu Asp Arg
275 280 285

Glu Lys Val Pro Glu Tyr Thr Leu Thr Ile Gln Ala Thr Asp Met Asp
290 295 300

Gly Asp Gly Ser Thr Thr Thr Ala Val Ala Val Val Glu Ile Leu Asp
305 310 315 320

Ala Asn Asp Asn Ala Pro Met Phe Asp Pro Gln Lys Tyr Glu Ala His
325 330 335

Val Pro Glu Asn Ala Val Gly His Glu Val Gln Arg Leu Thr Val Thr
340 345 350

Asp Leu Asp Ala Pro Asn Ser Pro Ala Trp Arg Ala Thr Tyr Leu Ile
355 360 365

Met Gly Gly Asp Asp Gly Asp His Phe Thr Ile Thr Thr His Pro Glu
370 375 380

Ser Asn Gln Gly Ile Leu Thr Thr Arg Lys Gly Leu Asp Phe Glu Ala
385 390 395 400

Lys Asn Gln His Thr Leu Tyr Val Glu Val Thr Asn Glu Ala Pro Phe
405 410 415

Val Leu Lys Leu Pro Thr Ser Thr Ala Thr Ile Val Val His Val Glu
420 425 430

Asp Val Asn Glu Ala Pro Val Phe Val Pro Pro Ser Lys Val Val Glu
435 440 445

Val Gln Glu Gly Ile Pro Thr Gly Glu Pro Val Cys Val Tyr Thr Ala
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Glu Asp Pro Asp Lys Glu Asn Gln Lys Ile Ser Tyr Arg Ile Leu Arg
465 470 475 480

Asp Pro Ala Gly Trp Leu Ala Met Asp Pro Asp Ser Gly Gln Val Thr
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Ala Val Gly Thr Leu Asp Arg Glu Asp Glu Gln Phe Val Arg Asn Asn
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Ile Tyr Glu Val Met Val Leu Ala Met Asp Asn Gly Ser Pro Pro Thr
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Thr Gly Thr Gly Thr Leu Leu Leu Thr Leu Ile Asp Val Asn Asp His
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Gly Pro Val Pro Glu Pro Arg Gln Ile Thr Ile Cys Asn Gln Ser Pro
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Val Arg His Val Leu Asn Ile Thr Asp Lys Asp Leu Ser Pro His Thr
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Ser Pro Phe Gln Ala Gln Leu Thr Asp Asp Ser Asp Ile Tyr Trp Thr
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Ala Glu Val Asn Glu Glu Gly Asp Thr Val Val Leu Ser Leu Lys Lys
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Phe Leu Lys Gln Asp Thr Tyr Asp Val His Leu Ser Leu Ser Asp His
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Gly Asn Lys Glu Gln Leu Thr Val Ile Arg Ala Thr Val Cys Asp Cys
625 630 635 640

His Gly His Val Glu Thr Cys Pro Gly Pro Trp Lys Gly Gly Phe Ile

645

650

655

Leu Pro Val Leu Gly Ala Val Leu Ala Leu Leu Phe Leu Leu Leu Val
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Leu Leu Leu Leu Val Arg Lys Lys Arg Lys Ile Lys Glu Pro Leu Leu
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Leu Pro Glu Asp Asp Thr Arg Asp Asn Val Phe Tyr Tyr Gly Glu Glu
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Gly Gly Gly Glu Glu Asp Gln Asp Tyr Asp Ile Thr Gln Leu His Arg
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Gly Leu Glu Ala Arg Pro Glu Val Val Leu Arg Asn Asp Val Ala Pro
725 730 735

Thr Ile Ile Pro Thr Pro Met Tyr Arg Pro Arg Pro Ala Asn Pro Asp
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Glu Ile Gly Asn Phe Ile Ile Glu Asn Leu Lys Ala Ala Asn Thr Asp
755 760 765

Pro Thr Ala Pro Pro Tyr Asp Thr Leu Leu Val Phe Asp Tyr Glu Gly
770 775 780

Ser Gly Ser Asp Ala Ala Ser Leu Ser Ser Leu Thr Ser Ser Ala Ser
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Asp Gln Asp Gln Asp Tyr Asp Tyr Leu Asn Glu Trp Gly Ser Arg Phe
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Lys Lys Leu Ala Asp Met Tyr Gly Gly Gly Glu Asp Asp
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<211> 1148

<212> DNA

<213> human organism

<400> 199

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<400> 200

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Ser Asn Thr Asp Thr Val Asp Asp Trp Thr Gly Thr Lys Leu Val Ile
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Val Leu Cys Val Gly Thr Phe Phe Cys Leu Phe Ile Phe Phe Ser Asn
35 40 45

Ser Leu Val Ile Ala Ala Val Ile Lys Asn Arg Lys Phe His Phe Pro

50

55

60

Phe Tyr Tyr Leu Leu Ala Asn Leu Ala Ala Ala Asp Phe Phe Ala Gly
65 70 75 80

Ile Ala Tyr Val Phe Leu Met Phe Asn Thr Gly Pro Val Ser Lys Thr
85 90 95

Leu Thr Val Asn Arg Trp Phe Leu Arg Gln Gly Leu Leu Asp Ser Ser
100 105 110

Leu Thr Ala Ser Leu Thr Asn Leu Leu Val Ile Ala Val Glu Arg His
115 120 125

Met Ser Ile Met Arg Met Arg Val His Ser Asn Leu Thr Lys Lys Arg
130 135 140

Val Thr Leu Leu Ile Leu Leu Val Trp Ala Ile Ala Ile Phe Met Gly
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Ala Val Pro Thr Leu Gly Trp Asn Cys Leu Cys Asn Ile Ser Ala Cys
165 170 175

Ser Ser Leu Ala Pro Ile Tyr Ser Arg Ser Tyr Leu Val Phe Trp Thr
180 185 190

Val Ser Asn Leu Met Ala Phe Leu Ile Met Val Val Val Tyr Leu Arg
195 200 205

Ile Tyr Val Tyr Val Lys Arg Lys Thr Asn Val Leu Ser Pro His Thr
210 215 220

Ser Gly Ser Ile Ser Arg Arg Arg Thr Pro Met Lys Leu Met Lys Thr
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Val Met Thr Val Leu Gly Ala Phe Val Val Cys Trp Thr Pro Gly Leu
245 250 255

Val Val Leu Leu Leu Asp Gly Leu Asn Cys Arg Gln Cys Gly Val Gln
260 265 270

His Val Lys Arg Trp Phe Leu Leu Leu Ala Leu Leu Asn Ser Val Val
275 280 285

Asn Pro Ile Ile Tyr Ser Tyr Lys Asp Glu Asp Met Tyr Gly Thr Met
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Lys Lys Met Ile Cys Cys Phe Ser Gln Glu Asn Pro Glu Arg Arg Pro
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His Leu Pro Cys Leu Ser Leu Ser Lys Glu Cys Gly Val Leu His Leu
50 55 60

Asp Ile His Gly Lys Lys Glu Asp Met Arg Ile Thr Gln Gln Ser Ser
65 70 75 80

Gln Leu Tyr Leu Trp Asp Met Gly Gly Phe Thr Ile Phe Lys Asn Leu
85 90 95

Trp Met Ser Leu Ile Pro Arg Gly Asn Lys Arg Ser Pro Lys Arg Val
100 105 110

Thr Glu Thr Ile Leu Arg Asp Phe Lys Gln Lys Gln Ser Ser Lys Ile
115 120 125

Gln Glu Glu Arg Arg Arg Glu Ser Ala Gly Pro Asn Leu Ser Ser Phe
130 135 140

Trp Phe Val Gly Asn Ala Gly Arg Gly Asp Arg Pro Gln Ile Trp Ala
145 150 155 160

Gly Ser Lys Gln Phe Ser Gly
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tt	2582

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Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu

20

25

30

Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
 35 40 45

Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
 50 55 60

Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly
 65 70 75 80

Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
 85 90 95

Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
 100 105 110

Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
 115 120 125

Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
 130 135 140

Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
 145 150 155 160

Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
 165 170 175

Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
 180 185 190

Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
 195 200 205

Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly
 210 215 220

Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
 225 230 235 240

Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
 245 250 255

Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg
260 265 270

Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
275 280 285

Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
290 295 300

Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
305 310 315 320

Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
325 330 335

Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
340 345 350

Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
355 360 365

Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
370 375 380

Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
385 390 395 400

Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
405 410 415

Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
420 425 430

Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
435 440 445

Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
450 455 460

Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
465 470 475 480

Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
485 490 495

Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
500 505 510

Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
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Lys Ser Asp Leu Ala Lys Tyr Ser Ala
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<210> 206
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<212> PRT
<213> human organism

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<400> 206

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Met Val Arg Arg Gly Leu Leu Ala Trp Ile Ser Arg Val Val Val Leu
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Leu Val Leu Leu Cys Cys Ala Ile Ser Val Leu Tyr Met Leu Ala Cys
          20           25           30

```

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Thr Pro Lys Gly Asp Glu Glu Gln Leu Ala Leu Pro Arg Ala Asn Ser
          35           40           45

```

```

Pro Thr Gly Lys Glu Gly Tyr Gln Ala Val Leu Gln Glu Trp Glu Glu
          50           55           60

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```

Gln His Arg Asn Tyr Val Ser Ser Leu Lys Arg Gln Ile Ala Gln Leu
65           70           75           80

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Lys Glu Glu Leu Gln Glu Arg Ser Glu Gln Leu Arg Asn Gly Gln Tyr
          85           90           95

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Gln Ala Ser Asp Ala Ala Gly Leu Gly Leu Asp Arg Ser Pro Pro Glu

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100

105

110

Lys Thr Gln Ala Asp Leu Leu Ala Phe Leu His Ser Gln Val Asp Lys
 115 120 125

Ala Glu Val Asn Ala Gly Val Lys Leu Ala Thr Glu Tyr Ala Ala Val
 130 135 140

Pro Phe Asp Ser Phe Thr Leu Gln Lys Val Tyr Gln Leu Glu Thr Gly
 145 150 155 160

Leu Thr Arg His Pro Glu Glu Lys Pro Val Arg Lys Asp Lys Arg Asp
 165 170 175

Glu Leu Val Glu Ala Ile Glu Ser Ala Leu Glu Thr Leu Asn Asn Pro
 180 185 190

Ala Glu Asn Ser Pro Asn His Arg Pro Tyr Thr Ala Ser Asp Phe Ile
 195 200 205

Glu Gly Ile Tyr Arg Thr Glu Arg Asp Lys Gly Thr Leu Tyr Glu Leu
 210 215 220

Thr Phe Lys Gly Asp His Lys His Glu Phe Lys Arg Leu Ile Leu Phe
 225 230 235 240

Arg Pro Phe Gly Pro Ile Met Lys Val Lys Asn Glu Lys Leu Asn Met
 245 250 255

Ala Asn Thr Leu Ile Asn Val Ile Val Pro Leu Ala Lys Arg Val Asp
 260 265 270

Lys Phe Arg Gln Phe Met Gln Asn Phe Arg Glu Met Cys Ile Glu Gln
 275 280 285

Asp Gly Arg Val His Leu Thr Val Val Tyr Phe Gly Lys Glu Glu Ile
 290 295 300

Asn Glu Val Lys Gly Ile Leu Glu Asn Thr Ser Lys Ala Ala Asn Phe
 305 310 315 320

Arg Asn Phe Thr Phe Ile Gln Leu Asn Gly Glu Phe Ser Arg Gly Lys
 325 330 335

Gly Leu Asp Val Gly Ala Arg Phe Trp Lys Gly Ser Asn Val Leu Leu
340 345 350

Phe Phe Cys Asp Val Asp Ile Tyr Phe Thr Ser Glu Phe Leu Asn Thr
355 360 365

Cys Arg Leu Asn Thr Gln Pro Gly Lys Lys Val Phe Tyr Pro Val Leu
370 375 380

Phe Ser Gln Tyr Asn Pro Gly Ile Ile Tyr Gly His His Asp Ala Val
385 390 395 400

Pro Pro Leu Glu Gln Gln Leu Val Ile Lys Lys Glu Thr Gly Phe Trp
405 410 415

Arg Asp Phe Gly Phe Gly Met Thr Cys Gln Tyr Arg Ser Asp Phe Ile
420 425 430

Asn Ile Gly Gly Phe Asp Leu Asp Ile Lys Gly Trp Gly Gly Glu Asp
435 440 445

Val His Leu Tyr Arg Lys Tyr Leu His Ser Asn Leu Ile Val Val Arg
450 455 460

Thr Pro Val Arg Gly Leu Phe His Leu Trp His Glu Lys Arg Cys Met
465 470 475 480

Asp Glu Leu Thr Pro Glu Gln Tyr Lys Met Cys Met Gln Ser Lys Ala
485 490 495

Met Asn Glu Ala Ser His Gly Gln Leu Gly Met Leu Val Phe Arg His
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Glu Ile Glu Ala His Leu Arg Lys Gln Lys Gln Lys Thr Ser Ser Lys
515 520 525

Lys Thr
530

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<213> human organism

<400> 207

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<212> PRT
<213> human organism

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<400> 208

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Cys Glu Val Ser His Arg Arg Ala Phe His Gly Trp Asn Glu Phe Asp
35           40           45

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Ile Ser Glu Asp Glu Pro Leu Trp Lys Lys Tyr Ile Ser Gln Phe Lys
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Asn Pro Leu Ile Met Leu Leu Leu Ala Ser Ala Val Ile Ser Val Leu
65 70 75 80

Met His Gln Phe Asp Asp Ala Val Ser Ile Thr Val Ala Ile Leu Ile
85 90 95

Val Val Thr Val Ala Phe Val Gln Glu Tyr Arg Ser Glu Lys Ser Leu
100 105 110

Glu Glu Leu Ser Lys Leu Val Pro Pro Glu Cys His Cys Val Arg Glu
115 120 125

Gly Lys Leu Glu His Thr Leu Ala Arg Asp Leu Val Pro Gly Asp Thr
130 135 140

Val Cys Leu Ser Val Gly Asp Arg Val Pro Ala Asp Leu Arg Leu Phe
145 150 155 160

Glu Ala Val Asp Leu Ser Ile Asp Glu Ser Ser Leu Thr Gly Glu Thr
165 170 175

Thr Pro Cys Ser Lys Val Thr Ala Pro Gln Pro Ala Ala Thr Asn Gly
180 185 190

Asp Leu Ala Ser Arg Ser Asn Ile Ala Phe Met Gly Thr Leu Val Arg
195 200 205

Cys Gly Lys Ala Lys Gly Val Val Ile Gly Thr Gly Glu Asn Ser Glu
210 215 220

Phe Gly Glu Val Phe Lys Met Met Gln Ala Glu Glu Ala Pro Lys Thr
225 230 235 240

Pro Leu Gln Lys Ser Met Asp Leu Leu Gly Lys Gln Leu Ser Phe Tyr
245 250 255

Ser Phe Gly Ile Ile Gly Ile Ile Met Leu Val Gly Trp Leu Leu Gly
260 265 270

Lys Asp Ile Leu Glu Met Phe Thr Ile Ser Val Ser Leu Ala Val Ala
275 280 285

Ala Ile Pro Glu Gly Leu Pro Ile Val Val Thr Val Thr Leu Ala Leu
290 295 300

Gly Val Met Arg Met Val Lys Lys Arg Ala Ile Val Lys Lys Leu Pro
305 310 315 320

Ile Val Glu Thr Leu Gly Cys Cys Asn Val Ile Cys Ser Asp Lys Thr
325 330 335

Gly Thr Leu Thr Lys Asn Glu Met Thr Val Thr His Ile Phe Thr Ser
340 345 350

Asp Gly Leu His Ala Glu Val Thr Gly Val Gly Tyr Asn Gln Phe Gly
355 360 365

Glu Val Ile Val Asp Gly Asp Val Val His Gly Phe Tyr Asn Pro Ala
370 375 380

Val Ser Arg Ile Val Glu Ala Gly Cys Val Cys Asn Asp Ala Val Ile
385 390 395 400

Arg Asn Asn Thr Leu Met Gly Lys Pro Thr Glu Gly Ala Leu Ile Ala
405 410 415

Leu Ala Met Lys Met Gly Leu Asp Gly Leu Gln Gln Asp Tyr Ile Arg
420 425 430

Lys Ala Glu Tyr Pro Phe Ser Ser Glu Gln Lys Trp Met Ala Val Lys
435 440 445

Cys Val His Arg Thr Gln Gln Asp Arg Pro Glu Ile Cys Phe Met Lys
450 455 460

Gly Ala Tyr Glu Gln Val Ile Lys Tyr Cys Thr Thr Tyr Gln Ser Lys
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Gly Gln Thr Leu Thr Leu Thr Gln Gln Gln Arg Asp Val Tyr Gln Gln
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Glu Lys Ala Arg Met Gly Ser Ala Gly Leu Arg Val Leu Ala Leu Ala

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505

510

Ser Gly Pro Glu Leu Gly Gln Leu Thr Phe Leu Gly Leu Val Gly Ile
 515 520 525

Ile Asp Pro Pro Arg Thr Gly Val Lys Glu Ala Val Thr Thr Leu Ile
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Ala Ser Gly Val Ser Ile Lys Met Ile Thr Gly Asp Ser Gln Glu Thr
 545 550 555 560

Ala Val Ala Ile Ala Ser Arg Leu Gly Leu Tyr Ser Lys Thr Ser Gln
 565 570 575

Ser Val Ser Gly Glu Glu Ile Asp Ala Met Asp Val Gln Gln Leu Ser
 580 585 590

Gln Ile Val Pro Lys Val Ala Val Phe Tyr Arg Ala Ser Pro Arg His
 595 600 605

Lys Met Lys Ile Ile Lys Ser Leu Gln Lys Asn Gly Ser Val Val Ala
 610 615 620

Met Thr Gly Asp Gly Val Asn Asp Ala Val Ala Leu Lys Ala Ala Asp
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Ile Gly Val Ala Met Gly Gln Thr Gly Thr Asp Val Cys Lys Glu Ala
 645 650 655

Ala Asp Met Ile Leu Val Asp Asp Asp Phe Gln Thr Ile Met Ser Ala
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Ile Glu Glu Gly Lys Gly Ile Tyr Asn Asn Ile Lys Asn Phe Val Arg
 675 680 685

Phe Gln Leu Ser Thr Ser Ile Ala Ala Leu Thr Leu Ile Ser Leu Ala
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Pro Val Asp Lys Asp Val Ile Arg Lys Pro Pro Arg Asn Trp Lys Asp
740 745 750

Ser Ile Leu Thr Lys Asn Leu Ile Leu Lys Ile Leu Val Ser Ser Ile
755 760 765

Ile Ile Val Cys Gly Thr Leu Phe Val Phe Trp Arg Glu Leu Arg Asp
770 775 780

Asn Val Ile Thr Pro Arg Asp Thr Thr Met Thr Phe Thr Cys Phe Val
785 790 795 800

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805 810 815

Val Phe Glu Ile Gly Leu Cys Ser Asn Arg Met Phe Cys Tyr Ala Val
820 825 830

Leu Gly Ser Ile Met Gly Gln Leu Leu Val Ile Tyr Phe Pro Pro Leu
835 840 845

Gln Lys Val Phe Gln Thr Glu Ser Leu Ser Ile Leu Asp Leu Leu Phe
850 855 860

Leu Leu Gly Leu Thr Ser Ser Val Cys Ile Val Ala Glu Ile Ile Lys
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Lys Val Glu Arg Ser Arg Glu Lys Ile Gln Lys His Val Ser Ser Thr
885 890 895

Ser Ser Ser Phe Leu Glu Val
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Gly Gly Ala Leu Ser Gly Thr Asp Thr Tyr Gln Ser Leu Val Asn Lys
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Thr Phe Gly Phe Pro Gly Tyr Leu Leu Leu Ser Val Leu Gln Phe Leu
65 70 75 80

Tyr Pro Phe Ile Ala Met Ile Ser Tyr Asn Ile Ile Ala Gly Asp Thr
85 90 95

Leu Ser Lys Val Phe Gln Arg Ile Pro Gly Val Asp Pro Glu Asn Val
100 105 110

Phe Ile Gly Arg His Phe Ile Ile Gly Leu Ser Thr Val Thr Phe Thr
115 120 125

Leu Pro Leu Ser Leu Tyr Arg Asn Ile Ala Lys Leu Gly Lys Val Ser
130 135 140

Leu Ile Ser Thr Gly Leu Thr Thr Leu Ile Leu Gly Ile Val Met Ala
145 150 155 160

Arg Ala Ile Ser Leu Gly Pro His Ile Pro Lys Thr Glu Asp Ala Trp
165 170 175

Val Phe Ala Lys Pro Asn Ala Ile Gln Ala Val Gly Val Met Ser Phe
180 185 190

Ala Phe Ile Cys His His Asn Ser Phe Leu Val Tyr Ser Ser Leu Glu
195 200 205

Glu Pro Thr Val Ala Lys Trp Ser Arg Leu Ile His Met Ser Ile Val
210 215 220

Ile Ser Val Phe Ile Cys Ile Phe Phe Ala Thr Cys Gly Tyr Leu Thr
225 230 235 240

Phe Thr Gly Phe Thr Gln Gly Asp Leu Phe Glu Asn Tyr Cys Arg Asn
245 250 255

Asp Asp Leu Val Thr Phe Gly Arg Phe Cys Tyr Gly Val Thr Val Ile
260 265 270

Leu Thr Tyr Pro Met Glu Cys Phe Val Thr Arg Glu Val Ile Ala Asn
 275 280 285

Val Phe Phe Gly Gly Asn Leu Ser Ser Val Phe His Ile Val Val Thr
 290 295 300

Val Met Val Ile Thr Val Ala Thr Leu Val Ser Leu Leu Ile Asp Cys
 305 310 315 320

Leu Gly Ile Val Leu Glu Leu Asn Gly Val Leu Cys Ala Thr Pro Leu
 325 330 335

Ile Phe Ile Ile Pro Ser Ala Cys Tyr Leu Lys Leu Ser Glu Glu Pro
 340 345 350

Arg Thr His Ser Asp Lys Ile Met Ser Cys Val Met Leu Pro Ile Gly
 355 360 365

Ala Val Val Met Val Phe Gly Phe Val Met Ala Ile Thr Asn Thr Gln
 370 375 380

Asp Cys Thr His Gly Gln Glu Met Phe Tyr Cys Phe Pro Asp Asn Phe
 385 390 395 400

Ser Leu Thr Asn Thr Ser Glu Ser His Val Gln Gln Thr Thr Gln Leu
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Ser Thr Leu Asn Ile Ser Ile Phe Gln Leu Glu
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Val Leu Leu Ile Lys Gly Gly Ala Leu Ser Gly Thr Asp Thr Tyr Gln
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Ser Leu Val Asn Lys Thr Phe Gly Phe Pro Gly Tyr Leu Leu Leu Ser
 35 40 45

Val Leu Gln Phe Leu Tyr Pro Phe Ile Ala Met Ile Ser Tyr Asn Ile
 50 55 60

Ile Ala Gly Asp Thr Leu Ser Lys Val Phe Gln Arg Ile Pro Gly Val

65

70

75

80

Asp Pro Glu Asn Val Phe Ile Gly Arg His Phe Ile Ile Gly Leu Ser
85 90 95

Thr Val Thr Phe Thr Leu Pro Leu Ser Leu Tyr Arg Asn Ile Ala Lys
100 105 110

Leu Gly Lys Val Ser Leu Ile Ser Thr Gly Leu Thr Thr Leu Ile Leu
115 120 125

Gly Ile Val Met Ala Arg Ala Ile Ser Leu Gly Pro His Ile Pro Lys
130 135 140

Thr Glu Asp Ala Trp Val Phe Ala Lys Pro Asn Ala Ile Gln Ala Val
145 150 155 160

Gly Val Met Ser Phe Ala Phe Ile Cys His His Asn Ser Phe Leu Val
165 170 175

Tyr Ser Ser Leu Glu Glu Pro Thr Val Ala Lys Trp Ser Arg Leu Ile
180 185 190

His Met Ser Ile Val Ile Ser Val Phe Ile Cys Ile Phe Phe Ala Thr
195 200 205

Cys Gly Tyr Leu Thr Phe Thr Gly Phe Thr Gln Gly Asp Leu Phe Glu
210 215 220

Asn Tyr Cys Arg Asn Asp Asp Leu Val Thr Phe Gly Arg Phe Cys Tyr
225 230 235 240

Gly Val Thr Val Ile Leu Thr Tyr Pro Met Glu Cys Phe Val Thr Arg
245 250 255

Glu Val Ile Ala Asn Val Phe Phe Gly Gly Asn Leu Ser Ser Val Phe
260 265 270

His Ile Val Val Thr Val Met Val Ile Thr Val Ala Thr Leu Val Ser
275 280 285

Leu Leu Ile Asp Cys Leu Gly Ile Val Leu Glu Leu Asn Gly Val Leu
290 295 300

Cys Ala Thr Pro Leu Ile Phe Ile Ile Pro Ser Ala Cys Tyr Leu Lys
 305 310 315 320

Leu Ser Glu Glu Pro Arg Thr His Ser Asp Lys Ile Met Ser Cys Val
 325 330 335

Met Leu Pro Ile Gly Ala Val Val Met Val Phe Gly Phe Val Met Ala
 340 345 350

Ile Thr Asn Thr Gln Asp Cys Thr His Gly Gln Glu Met Phe Tyr Cys
 355 360 365

Phe Pro Asp Asn Phe Ser Leu Thr Asn Thr Ser Glu Ser His Val Gln
 370 375 380

Gln Thr Thr Gln Leu Ser Thr Leu Asn Ile Ser Ile Phe Gln Leu Glu
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<211> 379

<212> PRT

<213> human organism

<400> 214

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Thr Phe Gly Phe Pro Gly Tyr Leu Leu Leu Ser Val Leu Gln Phe Leu
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Tyr Pro Phe Ile Ala Met Ile Ser Tyr Asn Ile Ile Ala Gly Asp Thr
 35 40 45

Leu Ser Lys Val Phe Gln Arg Ile Pro Gly Val Asp Pro Glu Asn Val
 50 55 60

Phe Ile Gly Arg His Phe Ile Ile Gly Leu Ser Thr Val Thr Phe Thr
 65 70 75 80

Leu Pro Leu Ser Leu Tyr Arg Asn Ile Ala Lys Leu Gly Lys Val Ser
 85 90 95

Leu Ile Ser Thr Gly Leu Thr Thr Leu Ile Leu Gly Ile Val Met Ala
 100 105 110

Arg Ala Ile Ser Leu Gly Pro His Ile Pro Lys Thr Glu Asp Ala Trp
 115 120 125

Val Phe Ala Lys Pro Asn Ala Ile Gln Ala Val Gly Val Met Ser Phe
 130 135 140

Ala Phe Ile Cys His His Asn Ser Phe Leu Val Tyr Ser Ser Leu Glu
145 150 155 160

Glu Pro Thr Val Ala Lys Trp Ser Arg Leu Ile His Met Ser Ile Val
165 170 175

Ile Ser Val Phe Ile Cys Ile Phe Phe Ala Thr Cys Gly Tyr Leu Thr
180 185 190

Phe Thr Gly Phe Thr Gln Gly Asp Leu Phe Glu Asn Tyr Cys Arg Asn
195 200 205

Asp Asp Leu Val Thr Phe Gly Arg Phe Cys Tyr Gly Val Thr Val Ile
210 215 220

Leu Thr Tyr Pro Met Glu Cys Phe Val Thr Arg Glu Val Ile Ala Asn
225 230 235 240

Val Phe Phe Gly Gly Asn Leu Ser Ser Val Phe His Ile Val Val Thr
245 250 255

Val Met Val Ile Thr Val Ala Thr Leu Val Ser Leu Leu Ile Asp Cys
260 265 270

Leu Gly Ile Val Leu Glu Leu Asn Gly Val Leu Cys Ala Thr Pro Leu
275 280 285

Ile Phe Ile Ile Pro Ser Ala Cys Tyr Leu Lys Leu Ser Glu Glu Pro
290 295 300

Arg Thr His Ser Asp Lys Ile Met Ser Cys Val Met Leu Pro Ile Gly
305 310 315 320

Ala Val Val Met Val Phe Gly Phe Val Met Ala Ile Thr Asn Thr Gln
325 330 335

Asp Cys Thr His Gly Gln Glu Met Phe Tyr Cys Phe Pro Asp Asn Phe
340 345 350

Ser Leu Thr Asn Thr Ser Glu Ser His Val Gln Gln Thr Thr Gln Leu
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Ser Thr Leu Asn Ile Ser Ile Phe Gln Leu Glu

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Asp Asp Arg Glu Thr Leu Val Ser Glu His Glu Tyr Lys Glu Lys Thr
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Cys Gln Ser Ala Ala Leu Phe Asn Val Val Asn Ser Ile Ile Gly Ser
35 40 45

Gly Ile Ile Gly Leu Pro Tyr Ser Met Lys Gln Ala Gly Phe Pro Leu
50 55 60

Gly Ile Leu Leu Leu Phe Trp Val Ser Tyr Val Thr Asp Phe Ser Leu
65 70 75 80

Val Leu Leu Ile Lys Gly Gly Ala Leu Ser Gly Thr Asp Thr Tyr Gln
85 90 95

Ser Leu Val Asn Lys Thr Phe Gly Phe Pro Gly Tyr Leu Leu Leu Ser
100 105 110

Val Leu Gln Phe Leu Tyr Pro Phe Ile Ala Met Ile Ser Tyr Asn Ile
115 120 125

Ile Ala Gly Asp Thr Leu Ser Lys Val Phe Gln Arg Ile Pro Gly Val
130 135 140

Asp Pro Glu Asn Val Phe Ile Gly Arg His Phe Ile Ile Gly Leu Ser
145 150 155 160

Thr Val Thr Phe Thr Leu Pro Leu Ser Leu Tyr Arg Asn Ile Ala Lys
165 170 175

Leu Gly Lys Val Ser Leu Ile Ser Thr Gly Leu Thr Thr Leu Ile Leu
180 185 190

Gly Ile Val Met Ala Arg Ala Ile Ser Leu Gly Pro His Ile Pro Lys

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225					230					235					240				
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His	Met	Ser	Ile	Val	Ile	Ser	Val	Phe	Ile	Cys	Ile	Phe	Phe	Ala	Thr				
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405					410					415									
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420					425					430									

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ctgcctgggt ccaaagactg.a 3501

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<211> 1166
<212> PRT
<213> human organism

<400> 218

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1 5 10 15

Ala His Thr Thr Glu Lys Pro Thr Asp Ala Tyr Gly Glu Leu Asp Phe
20 25 30

Thr Gly Ala Gly Arg Lys His Ser Asn Phe Leu Arg Leu Ser Asp Arg
35 40 45

Thr Asp Pro Ala Ala Val Tyr Ser Leu Val Thr Arg Thr Trp Gly Phe
50 55 60

Arg Ala Pro Asn Leu Val Val Ser Val Leu Gly Gly Ser Gly Gly Pro
65 70 75 80

Val Leu Gln Thr Trp Leu Gln Asp Leu Leu Arg Arg Gly Leu Val Arg
85 90 95

Ala Ala Gln Ser Thr Gly Ala Trp Ile Val Thr Gly Gly Leu His Thr
100 105 110

Gly Ile Gly Arg His Val Gly Val Ala Val Arg Asp His Gln Met Ala

115	120	125
Ser Thr Gly Gly Thr Lys Val Val Ala Met Gly Val Ala Pro Trp Gly		
130	135	140
Val Val Arg Asn Arg Asp Thr Leu Ile Asn Pro Lys Gly Ser Phe Pro		
145	150	155
Ala Arg Tyr Arg Trp Arg Gly Asp Pro Glu Asp Gly Val Gln Phe Pro		
165	170	175
Leu Asp Tyr Asn Tyr Ser Ala Phe Phe Leu Val Asp Asp Gly Thr His		
180	185	190
Gly Cys Leu Gly Gly Glu Asn Arg Phe Arg Leu Arg Leu Glu Ser Tyr		
195	200	205
Ile Ser Gln Gln Lys Thr Gly Val Gly Gly Thr Gly Ile Asp Ile Pro		
210	215	220
Val Leu Leu Leu Leu Ile Asp Gly Asp Glu Lys Met Leu Thr Arg Ile		
225	230	235
Glu Asn Ala Thr Gln Ala Gln Leu Pro Cys Leu Leu Val Ala Gly Ser		
245	250	255
Gly Gly Ala Ala Asp Cys Leu Ala Glu Thr Leu Glu Asp Thr Leu Ala		
260	265	270
Pro Gly Ser Gly Gly Ala Arg Gln Gly Glu Ala Arg Asp Arg Ile Arg		
275	280	285
Arg Phe Phe Pro Lys Gly Asp Leu Glu Val Leu Gln Ala Gln Val Glu		
290	295	300
Arg Ile Met Thr Arg Lys Glu Leu Leu Thr Val Tyr Ser Ser Glu Asp		
305	310	315
Gly Ser Glu Glu Phe Glu Thr Ile Val Leu Lys Ala Leu Val Lys Ala		
325	330	335
Cys Gly Ser Ser Glu Ala Ser Ala Tyr Leu Asp Glu Leu Arg Leu Ala		
340	345	350



Val Ala Trp Asn Arg Val Asp Ile Ala Gln Ser Glu Leu Phe Arg Gly
355 360 365

Asp Ile Gln Trp Arg Ser Phe His Leu Glu Ala Ser Leu Met Asp Ala
370 375 380

Leu Leu Asn Asp Arg Pro Glu Phe Val Arg Leu Leu Ile Ser His Gly
385 390 395 400

Leu Ser Leu Gly His Phe Leu Thr Pro Met Arg Leu Ala Gln Leu Tyr
405 410 415

Ser Ala Ala Pro Ser Asn Ser Leu Ile Arg Asn Leu Leu Asp Gln Ala
420 425 430

Ser His Ser Ala Gly Thr Lys Ala Pro Ala Leu Lys Gly Gly Ala Ala
435 440 445

Glu Leu Arg Pro Pro Asp Val Gly His Val Leu Arg Met Leu Leu Gly
450 455 460

Lys Met Cys Ala Pro Arg Tyr Pro Ser Gly Gly Ala Trp Asp Pro His
465 470 475 480

Pro Gly Gln Gly Phe Gly Glu Ser Met Tyr Leu Leu Ser Asp Lys Ala
485 490 495

Thr Ser Pro Leu Ser Leu Asp Ala Gly Leu Gly Gln Ala Pro Trp Ser
500 505 510

Asp Leu Leu Leu Trp Ala Leu Leu Leu Asn Arg Ala Gln Met Ala Met
515 520 525

Tyr Phe Trp Glu Met Gly Ser Asn Ala Val Ser Ser Ala Leu Gly Ala
530 535 540

Cys Leu Leu Leu Arg Val Met Ala Arg Leu Glu Pro Asp Ala Glu Glu
545 550 555 560

Ala Ala Arg Arg Lys Asp Leu Ala Phe Lys Phe Glu Gly Met Gly Val
565 570 575

Asp Leu Phe Gly Glu Cys Tyr Arg Ser Ser Glu Val Arg Ala Ala Arg
580 585 590

Leu Leu Leu Arg Arg Cys Pro Leu Trp Gly Asp Ala Thr Cys Leu Gln
595 600 605

Leu Ala Met Gln Ala Asp Ala Arg Ala Phe Phe Ala Gln Asp Gly Val
610 615 620

Gln Ser Leu Leu Thr Gln Lys Trp Trp Gly Asp Met Ala Ser Thr Thr
625 630 635 640

Pro Ile Trp Ala Leu Val Leu Ala Phe Phe Cys Pro Pro Leu Ile Tyr
645 650 655

Thr Arg Leu Ile Thr Phe Arg Lys Ser Glu Glu Glu Pro Thr Arg Glu
660 665 670

Glu Leu Glu Phe Asp Met Asp Ser Val Ile Asn Gly Glu Gly Pro Val
675 680 685

Gly Thr Ala Asp Pro Ala Glu Lys Thr Pro Leu Gly Val Pro Arg Gln
690 695 700

Ser Gly Arg Pro Gly Cys Cys Gly Gly Arg Cys Gly Gly Arg Arg Cys
705 710 715 720

Leu Arg Arg Trp Phe His Phe Trp Gly Ala Pro Val Thr Ile Phe Met
725 730 735

Gly Asn Val Val Ser Tyr Leu Leu Phe Leu Leu Leu Phe Ser Arg Val
740 745 750

Leu Leu Val Asp Phe Gln Pro Ala Pro Pro Gly Ser Leu Glu Leu Leu
755 760 765

Leu Tyr Phe Trp Ala Phe Thr Leu Leu Cys Glu Glu Leu Arg Gln Gly
770 775 780

Leu Ser Gly Gly Gly Gly Ser Leu Ala Ser Gly Gly Pro Gly Pro Gly
785 790 795 800

His Ala Ser Leu Ser Gln Arg Leu Arg Leu Tyr Leu Ala Asp Ser Trp
805 810 815

Asn Gln Cys Asp Leu Val Ala Leu Thr Cys Phe Leu Leu Gly Val Gly
820 825 830

Cys Arg Leu Thr Pro Gly Leu Tyr His Leu Gly Arg Thr Val Leu Cys
835 840 845

Ile Asp Phe Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val
850 855 860

Asn Lys Gln Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys
865 870 875 880

Asp Val Phe Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr
885 890 895

Gly Val Ala Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro
900 905 910

Ser Ile Leu Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly
915 920 925

Gln Ile Pro Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn
930 935 940

Cys Ser Ser Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala
945 950 955 960

Gly Thr Cys Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu
965 970 975

Val Ile Phe Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu Leu Ile
980 985 990

Ala Met Phe Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu
995 1000 1005

Tyr Trp Lys Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser
1010 1015 1020

Arg Pro Ala Leu Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg

1025	1030	1035
Leu Leu Leu Arg Gln Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro 1040 1045 1050		
Ser Ser Pro Ala Leu Glu His Phe Arg Val Tyr Leu Ser Lys Glu 1055 1060 1065		
Ala Glu Arg Lys Leu Leu Thr Trp Glu Ser Val His Lys Glu Asn 1070 1075 1080		
Phe Leu Leu Ala Arg Ala Arg Asp Lys Arg Glu Ser Asp Ser Glu 1085 1090 1095		
Arg Leu Lys Arg Thr Ser Gln Lys Val Asp Leu Ala Leu Lys Gln 1100 1105 1110		
Leu Gly His Ile Arg Glu Tyr Glu Gln Arg Leu Lys Val Leu Glu 1115 1120 1125		
Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly Trp Val Ala Glu 1130 1135 1140		
Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly Pro Pro Pro 1145 1150 1155		
Pro Asp Leu Pro Gly Ser Lys Asp 1160 1165		

<210> 219
 <211> 894
 <212> DNA
 <213> human organism

<400> 219

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ctgctcgtca cggccatctt caccgaccac tggtacgaga ccgacccccg gcgccacaag	120
gagagctgcg agcgcagccg cgcgggcgcc gaccccccg accagaagaa ccgcctgatg	180
ccgctgtcgc acctgccgct gcgggactcg cccccgctgg ggcgcgggct gctcccgggc	240
ggccccggggc gcgccgaccc cgagtctcgg cgctcgtctc tggggctcgg cgggctggac	300
gccgagtgcg gccggcccct ctctgccacc tactcggggc tctggaggaa gtgctacttc	360

ctgggcatcg accgggacat cgacaccctc atcctgaaag gtattgcgca gcgatgcacg 420
 gccatcaagt accacttttc tcagcccatc cgcttgcgaa acattccttt taatttaacc 480
 aagaccatac agcaagatga gtggcacctg cttcatttaa gaagaatcac tgctggcttc 540
 ctcggcatgg ccgtagccgt ccttctctgc ggctgcattg tggccacagt cagtttcttc 600
 tgggaggaga gcttgacca gcacgtggct ggactcctgt tcctcatgac agggatattt 660
 tgcaccattt ccctctgtac ttatgccgcc agtatctcgt atgatttgaa ccggctccca 720
 aagctaattt atagcctgcc tgctgatgtg gaacatggtt acagctggtc catcttttgc 780
 gcctggtgca gtttaggctt tattgtggca gctggaggtc tctgcatcgc ttatccgttt 840
 attagccgga ccaagattgc acagctaaag tctggcagag actccacggt atga 894

<210> 220
 <211> 297
 <212> PRT
 <213> human organism

<400> 220

Met Glu Pro Arg Ala Leu Val Thr Ala Leu Ser Leu Gly Leu Ser Leu
 1 5 10 15

Cys Ser Leu Gly Leu Leu Val Thr Ala Ile Phe Thr Asp His Trp Tyr
 20 25 30

Glu Thr Asp Pro Arg Arg His Lys Glu Ser Cys Glu Arg Ser Arg Ala
 35 40 45

Gly Ala Asp Pro Pro Asp Gln Lys Asn Arg Leu Met Pro Leu Ser His
 50 55 60

Leu Pro Leu Arg Asp Ser Pro Pro Leu Gly Arg Arg Leu Leu Pro Gly
 65 70 75 80

Gly Pro Gly Arg Ala Asp Pro Glu Ser Trp Arg Ser Leu Leu Gly Leu
 85 90 95

Gly Gly Leu Asp Ala Glu Cys Gly Arg Pro Leu Phe Ala Thr Tyr Ser
 100 105 110

Gly Leu Trp Arg Lys Cys Tyr Phe Leu Gly Ile Asp Arg Asp Ile Asp
 115 120 125

Thr Leu Ile Leu Lys Gly Ile Ala Gln Arg Cys Thr Ala Ile Lys Tyr
 130 135 140

His Phe Ser Gln Pro Ile Arg Leu Arg Asn Ile Pro Phe Asn Leu Thr
 145 150 155 160

Lys Thr Ile Gln Gln Asp Glu Trp His Leu Leu His Leu Arg Arg Ile
 165 170 175

Thr Ala Gly Phe Leu Gly Met Ala Val Ala Val Leu Leu Cys Gly Cys
 180 185 190

Ile Val Ala Thr Val Ser Phe Phe Trp Glu Glu Ser Leu Thr Gln His
 195 200 205

Val Ala Gly Leu Leu Phe Leu Met Thr Gly Ile Phe Cys Thr Ile Ser
 210 215 220

Leu Cys Thr Tyr Ala Ala Ser Ile Ser Tyr Asp Leu Asn Arg Leu Pro
 225 230 235 240

Lys Leu Ile Tyr Ser Leu Pro Ala Asp Val Glu His Gly Tyr Ser Trp
 245 250 255

Ser Ile Phe Cys Ala Trp Cys Ser Leu Gly Phe Ile Val Ala Ala Gly
 260 265 270

Gly Leu Cys Ile Ala Tyr Pro Phe Ile Ser Arg Thr Lys Ile Ala Gln
 275 280 285

Leu Lys Ser Gly Arg Asp Ser Thr Val
 290 295

<210> 221
 <211> 1134
 <212> DNA
 <213> human organism

<400> 221
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 aaggttcctg agagctatgt agagacttca gccagtggag gtacagtttc tctaatagca 120
 tttacaacta tggctttatt aaccataatg gaattctcag tatatcaaga tacatggatg 180

65		70		75		80									
Thr	Val	Ala	Met	Lys	Cys	Gln	Tyr	Val	Gly	Ala	Asp	Val	Leu	Asp	Leu
				85					90					95	
Ala	Glu	Thr	Met	Val	Ala	Ser	Ala	Asp	Gly	Leu	Val	Tyr	Glu	Pro	Thr
			100					105					110		
Val	Phe	Asp	Leu	Ser	Pro	Gln	Gln	Lys	Glu	Trp	Gln	Arg	Met	Leu	Gln
		115					120					125			
Leu	Ile	Gln	Ser	Arg	Leu	Gln	Glu	Glu	His	Ser	Leu	Gln	Asp	Val	Ile
	130					135					140				
Phe	Lys	Ser	Ala	Phe	Lys	Ser	Thr	Ser	Thr	Ala	Leu	Pro	Pro	Arg	Glu
145					150					155					160
Asp	Asp	Ser	Ser	Gln	Ser	Pro	Asn	Ala	Cys	Arg	Ile	His	Gly	His	Leu
				165					170					175	
Tyr	Val	Asn	Lys	Val	Ala	Gly	Asn	Phe	His	Ile	Thr	Val	Gly	Lys	Ala
			180					185					190		
Ile	Pro	His	Pro	Arg	Gly	His	Ala	His	Leu	Ala	Ala	Leu	Val	Asn	His
		195					200					205			
Glu	Ser	Tyr	Asn	Phe	Ser	His	Arg	Ile	Asp	His	Leu	Ser	Phe	Gly	Glu
	210					215					220				
Leu	Val	Pro	Ala	Ile	Ile	Asn	Pro	Leu	Asp	Gly	Thr	Glu	Lys	Ile	Ala
225					230					235					240
Ile	Asp	His	Asn	Gln	Met	Phe	Gln	Tyr	Phe	Ile	Thr	Val	Val	Pro	Thr
				245					250					255	
Lys	Leu	His	Thr	Tyr	Lys	Ile	Ser	Ala	Asp	Thr	His	Gln	Phe	Ser	Val
			260					265					270		
Thr	Glu	Arg	Glu	Arg	Ile	Ile	Asn	His	Ala	Ala	Gly	Ser	His	Gly	Val
		275					280					285			
Ser	Gly	Ile	Phe	Met	Lys	Tyr	Asp	Leu	Ser	Ser	Leu	Met	Val	Thr	Val
	290					295					300				

Thr Glu Glu His Met Pro Phe Trp Gln Phe Phe Val Arg Leu Cys Gly
 305 310 315 320

Ile Val Gly Gly Ile Phe Ser Thr Thr Gly Met Leu His Gly Ile Gly
 325 330 335

Lys Phe Ile Val Glu Ile Ile Cys Cys Arg Phe Arg Leu Gly Ser Tyr
 340 345 350

Lys Pro Val Asn Ser Val Pro Phe Glu Asp Gly His Thr Asp Asn His
 355 360 365

Leu Pro Leu Leu Glu Asn Asn Thr His
 370 375

<210> 223
 <211> 3407
 <212> DNA
 <213> human organism

<400> 223
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 gcgcttgtca ccatcatcac cgtgcccgtg gttctgctga acaaaggcac agatgatgct 180
 acagctgaca gtcgcaaaac ttacactcta actgattact taaaaaatac ttatagactg 240
 aagttatact ccttaagatg gatttcagat catgaatatc tctacaaaca agaaaataat 300
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 ttagaataca actacgtgaa gcaatggagg cattcctaca cagcttcata tgacatttat 480
 gatttaaata aaaggcagct gattacagaa gagaggattc caaacaacac acagtgggtc 540
 acatgggtcac cagtgggtca taaattggca tatgtttgga acaatgacat ttatgttaaa 600
 attgaaccaa atttaccaag ttacagaatc acatggacgg ggaaagaaga tataatatat 660
 aatggaataa ctgactgggt ttatgaagag gaagtcttca gtgcctactc tgctctgtgg 720
 tgggtctcaa acggcacttt ttagcatat gcccaattta acgacacaga agtcccactt 780
 attgaatact ccttctactc tgatgagtca ctgcagtacc caaagactgt acgggttcca 840
 tatccaaagg caggagctgt gaatccaact gtaaagttct ttgttgtaaa tacagactct 900

ctcagctcag tcaccaatgc aacttccata caaatcactg ctctgcttc tatgttgata	960
ggggatcact acttgtgtga tgtgacatgg gcaacacaag aaagaatttc tttgcagtgg	1020
ctcaggagga ttcagaacta ttcggtcatg gatatttgtg actatgatga atccagtgga	1080
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agatttaggc cttcagaacc tcattttacc cttgatggta atagcttcta caagatcatc	1200
agcaatgaag aaggttacag acacatttgc tatttccaaa tagataaaaa agactgcaca	1260
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tactacatta gtaatgaata taaaggaatg ccaggaggaa ggaatcttta taaaatccaa	1380
cttattgact atacaaaagt gacatgcctc agttgtgagc tgaatccgga aagggtgcag	1440
tactattctg tgtcattcag taaagaggcg aagtattatc agctgagatg ttccggctct	1500
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gctagctttg atggcagagg aagtggttac caaggagata agatcatgca tgcaatcaac	1860
agaagactgg gaacatttga agttgaagat caaattgaag cagccagaca attttcaaaa	1920
atgggatttg tggacaacaa acgaattgca atttggggct ggtcatatgg aggggtacgta	1980
acctcaatgg tcttgggac ggggaagtggc gtgttcaagt gtggaatagc cgtgggcct	2040
gtatcccggg gggagtacta tgactcagtg tacacagaac gttacatggg tctcccaact	2100
ccagaagaca accttgacca ttacagaaat tcaacagtca tgagcagagc tgaaaatttt	2160
aaacaagttg agtacctcct tattcatgga acagcagatg ataacgttca ctttcagcag	2220
tcagctcaga tctccaaagc cctggtcgat gttggagtgg atttccaggc aatgtggtat	2280
actgatgaag accatggaat agctagcagc acagcacacc aacatatata taccacatg	2340
agccacttca taaaacaatg tttctcttta ccttagcacc tcaaaatacc atgccattta	2400
aagcttatta aaactcattt ttgttttcat tatctcaaaa ctgcactgtc aagatgatga	2460
tgatctttta aatacacact caaatcaaga aacttaaggt tacctttgtt cccaaatttc	2520
atacctatca tcttaagtag ggacttctgt cttcacaaca gattattacc ttacagaagt	2580

ttgaattatc cggtcggggtt ttattgttta aaatcatttc tgcatacagct gctgaaacaa 2640
 caaataggaa ttgtttttat ggaggctttg catagattcc ctgagcagga ttttaattctt 2700
 tttctaactg gactgggttca aatgttggtc tcttctttaa agggatggca agatgtgggc 2760
 agtgaatgtca ctagggcagg gacaggataa gagggattag ggagagaaga tagcagggca 2820
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 agaagagctg ttcaccacga gactggcaca gttttctgag aaagactatt caaacagtct 2940
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 aaagaaatgt aagggaaact gccagcaacg cagccccag gtgccagtta tggctatagg 3060
 tgctacaaaa acacagcaag ggtgatggga aagcattgta aatgtgcttt taaaaaaaaa 3120
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 ctgttaaaag atgaaaatat ttgtatcaca aatcttaact tgaaggagtc cttgcatcaa 3240
 tttttcttat ttcatttctt tgagtgtctt aattaaaga atattttaac ttccttggac 3300
 tcattttaaa aaatggaaca taaaatacaa tgttatgtat tattattccc attctacata 3360
 ctatggaatt tctcccagtc atttaataaa tgtgccttca ttttttc 3407

<210> 224

<211> 766

<212> PRT

<213> human organism

<400> 224

Met Lys Thr Pro Trp Lys Ile Leu Leu Gly Leu Leu Gly Ala Ala Ala
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Leu Val Thr Ile Ile Thr Val Pro Val Val Leu Leu Asn Lys Gly Thr
 20 25 30

Asp Asp Ala Thr Ala Asp Ser Arg Lys Thr Tyr Thr Leu Thr Asp Tyr
 35 40 45

Leu Lys Asn Thr Tyr Arg Leu Lys Leu Tyr Ser Leu Arg Trp Ile Ser
 50 55 60

Asp His Glu Tyr Leu Tyr Lys Gln Glu Asn Asn Ile Leu Val Phe Asn
 65 70 75 80

Ala Glu Tyr Gly Asn Ser Ser Val Phe Leu Glu Asn Ser Thr Phe Asp

85

90

95

Glu Phe Gly His Ser Ile Asn Asp Tyr Ser Ile Ser Pro Asp Gly Gln
 100 105 110

Phe Ile Leu Leu Glu Tyr Asn Tyr Val Lys Gln Trp Arg His Ser Tyr
 115 120 125

Thr Ala Ser Tyr Asp Ile Tyr Asp Leu Asn Lys Arg Gln Leu Ile Thr
 130 135 140

Glu Glu Arg Ile Pro Asn Asn Thr Gln Trp Val Thr Trp Ser Pro Val
 145 150 155 160

Gly His Lys Leu Ala Tyr Val Trp Asn Asn Asp Ile Tyr Val Lys Ile
 165 170 175

Glu Pro Asn Leu Pro Ser Tyr Arg Ile Thr Trp Thr Gly Lys Glu Asp
 180 185 190

Ile Ile Tyr Asn Gly Ile Thr Asp Trp Val Tyr Glu Glu Glu Val Phe
 195 200 205

Ser Ala Tyr Ser Ala Leu Trp Trp Ser Pro Asn Gly Thr Phe Leu Ala
 210 215 220

Tyr Ala Gln Phe Asn Asp Thr Glu Val Pro Leu Ile Glu Tyr Ser Phe
 225 230 235 240

Tyr Ser Asp Glu Ser Leu Gln Tyr Pro Lys Thr Val Arg Val Pro Tyr
 245 250 255

Pro Lys Ala Gly Ala Val Asn Pro Thr Val Lys Phe Phe Val Val Asn
 260 265 270

Thr Asp Ser Leu Ser Ser Val Thr Asn Ala Thr Ser Ile Gln Ile Thr
 275 280 285

Ala Pro Ala Ser Met Leu Ile Gly Asp His Tyr Leu Cys Asp Val Thr
 290 295 300

Trp Ala Thr Gln Glu Arg Ile Ser Leu Gln Trp Leu Arg Arg Ile Gln
 305 310 315 320

Asn Tyr Ser Val Met Asp Ile Cys Asp Tyr Asp Glu Ser Ser Gly Arg
325 330 335

Trp Asn Cys Leu Val Ala Arg Gln His Ile Glu Met Ser Thr Thr Gly
340 345 350

Trp Val Gly Arg Phe Arg Pro Ser Glu Pro His Phe Thr Leu Asp Gly
355 360 365

Asn Ser Phe Tyr Lys Ile Ile Ser Asn Glu Glu Gly Tyr Arg His Ile
370 375 380

Cys Tyr Phe Gln Ile Asp Lys Lys Asp Cys Thr Phe Ile Thr Lys Gly
385 390 395 400

Thr Trp Glu Val Ile Gly Ile Glu Ala Leu Thr Ser Asp Tyr Leu Tyr
405 410 415

Tyr Ile Ser Asn Glu Tyr Lys Gly Met Pro Gly Gly Arg Asn Leu Tyr
420 425 430

Lys Ile Gln Leu Ile Asp Tyr Thr Lys Val Thr Cys Leu Ser Cys Glu
435 440 445

Leu Asn Pro Glu Arg Cys Gln Tyr Tyr Ser Val Ser Phe Ser Lys Glu
450 455 460

Ala Lys Tyr Tyr Gln Leu Arg Cys Ser Gly Pro Gly Leu Pro Leu Tyr
465 470 475 480

Thr Leu His Ser Ser Val Asn Asp Lys Gly Leu Arg Val Leu Glu Asp
485 490 495

Asn Ser Ala Leu Asp Lys Met Leu Gln Asn Val Gln Met Pro Ser Lys
500 505 510

Lys Leu Asp Phe Ile Ile Leu Asn Glu Thr Lys Phe Trp Tyr Gln Met
515 520 525

Ile Leu Pro Pro His Phe Asp Lys Ser Lys Lys Tyr Pro Leu Leu Leu
530 535 540

Asp Val Tyr Ala Gly Pro Cys Ser Gln Lys Ala Asp Thr Val Phe Arg
545 550 555 560

Leu Asn Trp Ala Thr Tyr Leu Ala Ser Thr Glu Asn Ile Ile Val Ala
565 570 575

Ser Phe Asp Gly Arg Gly Ser Gly Tyr Gln Gly Asp Lys Ile Met His
580 585 590

Ala Ile Asn Arg Arg Leu Gly Thr Phe Glu Val Glu Asp Gln Ile Glu
595 600 605

Ala Ala Arg Gln Phe Ser Lys Met Gly Phe Val Asp Asn Lys Arg Ile
610 615 620

Ala Ile Trp Gly Trp Ser Tyr Gly Gly Tyr Val Thr Ser Met Val Leu
625 630 635 640

Gly Ser Gly Ser Gly Val Phe Lys Cys Gly Ile Ala Val Ala Pro Val
645 650 655

Ser Arg Trp Glu Tyr Tyr Asp Ser Val Tyr Thr Glu Arg Tyr Met Gly
660 665 670

Leu Pro Thr Pro Glu Asp Asn Leu Asp His Tyr Arg Asn Ser Thr Val
675 680 685

Met Ser Arg Ala Glu Asn Phe Lys Gln Val Glu Tyr Leu Leu Ile His
690 695 700

Gly Thr Ala Asp Asp Asn Val His Phe Gln Gln Ser Ala Gln Ile Ser
705 710 715 720

Lys Ala Leu Val Asp Val Gly Val Asp Phe Gln Ala Met Trp Tyr Thr
725 730 735

Asp Glu Asp His Gly Ile Ala Ser Ser Thr Ala His Gln His Ile Tyr
740 745 750

Thr His Met Ser His Phe Ile Lys Gln Cys Phe Ser Leu Pro
755 760 765

<210> 225
 <211> 261
 <212> DNA
 <213> human organism

<400> 225
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 agaaaccctc aggagctctg gatgggcctg ctcctcttga tgggggtcct agaagcatgt 180
 gtggaaatga ggcctctgtc agtctgtgtcc ctgagagatg acaaggagca gagccccac 240
 cagcccacac tggatgtcta a 261

<210> 226
 <211> 86
 <212> PRT
 <213> human organism

<400> 226

Met Ala Leu Ala Lys Val Arg Glu Pro Asn Ala Asn Asp Asn Ala Ile
 1 5 10 15

Arg Val Asp Asn Arg Ser Val Ile Lys Val Arg Ala Asn Gln Cys Ser
 20 25 30

Leu His Glu Ala Glu Ser Glu Ser Arg Asn Pro Gln Glu Leu Trp Met
 35 40 45

Gly Leu Leu Leu Leu Met Gly Val Leu Glu Ala Cys Val Glu Met Arg
 50 55 60

Pro Leu Ser Val Trp Ser Leu Arg Asp Asp Lys Glu Gln Ser Pro His
 65 70 75 80

Gln Pro Thr Leu Asp Val
 85

<210> 227
 <211> 462
 <212> DNA
 <213> human organism

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Lys Glu Val Glu Lys Ser Thr Gln Glu Met Glu Phe Cys Glu Thr Ser
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His Gly Tyr Gln Leu Glu Met Gly Ser Asp Val Asp Thr Glu Thr Glu
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Gly Ala Ala Ser Pro Asp His Ala Leu Arg Met Trp Ile Arg Gly Met
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Phe Lys Phe Ser Pro Val Cys Cys Asp Met Glu Ala Gln Ala Gly Ser
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Thr Gln Asp Val Gln Ser Ser Pro His Asn Gln Phe Thr Phe Arg Pro
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Leu Pro Pro Pro Pro Pro Pro Pro His Ala Cys Thr Cys Ala Arg Lys
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Pro Pro Pro Ala Ala Asp Ser Leu Gln Arg Arg Ser Met Thr Thr Arg
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Ser Gln Pro Ser Pro Ala Ala Pro Ala Pro Pro Thr Ser Thr Gln Asp
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Ser Val His Leu His Asn Ser Trp Val Leu Asn Ser Asn Ile Pro Leu
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Glu Thr Arg His Ser Leu Phe Lys His Gly Ser Gly Ser Ser Ala Ile

260

265

270

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Phe Thr Phe Asn Lys Pro Tyr Arg Cys Cys Asn Trp Lys Cys Thr Ala
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Leu Ser Ala Thr Ala Ile Thr Val Thr Leu Ala Leu Leu Leu Ala Tyr
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Val Ile Ala Val His Leu Phe Gly Leu Thr Trp Gln Leu Gln Pro Val
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Glu Gly Glu Leu Tyr Ala Asn Gly Val Ser Lys Gly Asn Arg Gly Thr
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Glu Ser Met Asp Thr Thr Tyr Ser Pro Ile Gly Gly Lys Val Ser Asp
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Lys Ser Glu Lys Lys Val Phe Gln Lys Gly Arg Ala Ile Asp Thr Gly
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Gly Lys Gln Leu Val Lys Gln Asp Ser Lys Gly Ser Asp Asp Thr Gln
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Met Phe Ile Ser Gln Gln Pro Pro Val Ile Ser Thr Ile Met Gly

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Arg Tyr Arg Gln Thr Gly Pro Leu Ile Gly Arg Gln Ile Phe Arg

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<210> 232
<211> 790
<212> PRT
<213> human organism

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<400> 232

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Met Ala Ala Pro Gly Gly Arg Ser Glu Pro Pro Gln Leu Pro Glu Tyr
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```

```

Ser Cys Ser Tyr Met Val Ser Arg Pro Val Tyr Ser Glu Leu Ala Phe
          20          25          30

```

```

Gln Gln Gln His Glu Arg Arg Leu Gln Glu Arg Lys Thr Leu Arg Glu
          35          40          45

```

```

Ser Leu Ala Lys Cys Cys Ser Cys Ser Arg Lys Arg Ala Phe Gly Val
          50          55          60

```

```

Leu Lys Thr Leu Val Pro Ile Leu Glu Trp Leu Pro Lys Tyr Arg Val
65          70          75          80

```

```

Lys Glu Trp Leu Leu Ser Asp Val Ile Ser Gly Val Ser Thr Gly Leu
          85          90          95

```

```

Val Ala Thr Leu Gln Gly Met Ala Tyr Ala Leu Leu Ala Ala Val Pro
          100          105          110

```

Val Gly Tyr Gly Leu Tyr Ser Ala Phe Phe Pro Ile Leu Thr Tyr Phe
115 120 125

Ile Phe Gly Thr Ser Arg His Ile Ser Val Gly Pro Phe Pro Val Val
130 135 140

Ser Leu Met Val Gly Ser Val Val Leu Ser Met Ala Pro Asp Glu His
145 150 155 160

Phe Leu Val Ser Ser Ser Asn Gly Thr Val Leu Asn Thr Thr Met Ile
165 170 175

Asp Thr Ala Ala Arg Asp Thr Ala Arg Val Leu Ile Ala Ser Ala Leu
180 185 190

Thr Leu Leu Val Gly Ile Ile Gln Leu Ile Phe Gly Gly Leu Gln Ile
195 200 205

Gly Phe Ile Val Arg Tyr Leu Ala Asp Pro Leu Val Gly Gly Phe Thr
210 215 220

Thr Ala Ala Ala Phe Gln Val Leu Val Ser Gln Leu Lys Ile Val Leu
225 230 235 240

Asn Val Ser Thr Lys Asn Tyr Asn Gly Val Leu Ser Ile Ile Tyr Thr
245 250 255

Leu Val Glu Ile Phe Gln Asn Ile Gly Asp Thr Asn Leu Ala Asp Phe
260 265 270

Thr Ala Gly Leu Leu Thr Ile Val Val Cys Met Ala Val Lys Glu Leu
275 280 285

Asn Asp Arg Phe Arg His Lys Ile Pro Val Pro Ile Pro Ile Glu Val
290 295 300

Ile Val Thr Ile Ile Ala Thr Ala Ile Ser Tyr Gly Ala Asn Leu Glu
305 310 315 320

Lys Asn Tyr Asn Ala Gly Ile Val Lys Ser Ile Pro Arg Gly Phe Leu
325 330 335

Pro Pro Glu Leu Pro Pro Val Ser Leu Phe Ser Glu Met Leu Ala Ala

340

345

350

Ser Phe Ser Ile Ala Val Val Ala Tyr Ala Ile Ala Val Ser Val Gly
 355 360 365

Lys Val Tyr Ala Thr Lys Tyr Asp Tyr Thr Ile Asp Gly Asn Gln Glu
 370 375 380

Phe Ile Ala Phe Gly Ile Ser Asn Ile Phe Ser Gly Phe Phe Ser Cys
 385 390 395 400

Phe Val Ala Thr Thr Ala Leu Ser Arg Thr Ala Val Gln Glu Ser Thr
 405 410 415

Gly Gly Lys Thr Gln Val Ala Gly Ile Ile Ser Ala Ala Ile Val Met
 420 425 430

Ile Ala Ile Leu Ala Leu Gly Lys Leu Leu Glu Pro Leu Gln Lys Ser
 435 440 445

Val Leu Ala Ala Val Val Ile Ala Asn Leu Lys Gly Met Phe Met Gln
 450 455 460

Leu Cys Asp Ile Pro Arg Leu Trp Arg Gln Asn Lys Ile Asp Ala Val
 465 470 475 480

Ile Trp Val Phe Thr Cys Ile Val Ser Ile Ile Leu Gly Leu Asp Leu
 485 490 495

Gly Leu Leu Ala Gly Leu Ile Phe Gly Leu Leu Thr Val Val Leu Arg
 500 505 510

Val Gln Phe Pro Ser Trp Asn Gly Leu Gly Ser Ile Pro Ser Thr Asp
 515 520 525

Ile Tyr Lys Ser Thr Lys Asn Tyr Lys Asn Ile Glu Glu Pro Gln Gly
 530 535 540

Val Lys Ile Leu Arg Phe Ser Ser Pro Ile Phe Tyr Gly Asn Val Asp
 545 550 555 560

Gly Phe Lys Lys Cys Ile Lys Ser Thr Val Gly Phe Asp Ala Ile Arg
 565 570 575

Val Tyr Asn Lys Arg Leu Lys Ala Leu Arg Lys Ile Gln Lys Leu Ile
580 585 590

Lys Ser Gly Gln Leu Arg Ala Thr Lys Asn Gly Ile Ile Ser Asp Ala
595 600 605

Val Ser Thr Asn Asn Ala Phe Glu Pro Asp Glu Asp Ile Glu Asp Leu
610 615 620

Glu Glu Leu Asp Ile Pro Thr Lys Glu Ile Glu Ile Gln Val Asp Trp
625 630 635 640

Asn Ser Glu Leu Pro Val Lys Val Asn Val Pro Lys Val Pro Ile His
645 650 655

Ser Leu Val Leu Asp Cys Gly Ala Ile Ser Phe Leu Asp Val Val Gly
660 665 670

Val Arg Ser Leu Arg Val Ile Val Lys Glu Phe Gln Arg Ile Asp Val
675 680 685

Asn Val Tyr Phe Ala Ser Leu Gln Asp Tyr Val Ile Glu Lys Leu Glu
690 695 700

Gln Cys Gly Phe Phe Asp Asp Asn Ile Arg Lys Asp Thr Phe Phe Leu
705 710 715 720

Thr Val His Asp Ala Ile Leu Tyr Leu Gln Asn Gln Val Lys Ser Gln
725 730 735

Glu Gly Gln Gly Ser Ile Leu Glu Thr Ile Thr Leu Ile Gln Asp Cys
740 745 750

Lys Asp Thr Leu Glu Leu Ile Glu Thr Glu Leu Thr Glu Glu Glu Leu
755 760 765

Asp Val Gln Asp Glu Ala Met Arg Thr Leu Ala Ser Gln Asp Glu Ala
770 775 780

Met Arg Thr Leu Ala Ser
785 790

<210> 233
 <211> 1282
 <212> DNA
 <213> human organism

<400> 233
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 tgctcctgct cttggtgcag ctgctgcgct tcctgagggc tgacggcgac ctgacgctac 180
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 tttctcttgt gctgtcagcc agaagagtgc atgagctgga aagggtgaaa agaagatgcc 360
 tagagaatgg caatttaaaa gaaaaagata tacttgtttt gcccttgac ctgaccgaca 420
 ctggttccca tgaagcggct accaaagctg ttctccagga gtttggtaga atcgacattc 480
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 tatctgtacc tctttccatt ggatactgtg ctagcaagca tgctctccgg ggttttttta 720
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 tcagcatggc caatgatatt aaagaagttt ggatctcaga acaacctttc ttgttagtaa 960
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<210> 234
 <211> 339
 <212> PRT
 <213> human organism

<400> 234

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20 25 30

Thr Leu Leu Trp Ala Glu Trp Gln Gly Arg Arg Pro Glu Trp Glu Leu
35 40 45

Thr Asp Met Val Val Trp Val Thr Gly Ala Ser Ser Gly Ile Gly Glu
50 55 60

Glu Leu Ala Tyr Gln Leu Ser Lys Leu Gly Val Ser Leu Val Leu Ser
65 70 75 80

Ala Arg Arg Val His Glu Leu Glu Arg Val Lys Arg Arg Cys Leu Glu
85 90 95

Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu Asp Leu
100 105 110

Thr Asp Thr Gly Ser His Glu Ala Ala Thr Lys Ala Val Leu Gln Glu
115 120 125

Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly Met Ser Gln Arg
130 135 140

Ser Leu Cys Met Asp Thr Ser Leu Asp Val Tyr Arg Lys Leu Ile Glu
145 150 155 160

Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr Lys Cys Val Leu Pro His
165 170 175

Met Ile Glu Arg Lys Gln Gly Lys Ile Val Thr Val Asn Ser Ile Leu
180 185 190

Gly Ile Ile Ser Val Pro Leu Ser Ile Gly Tyr Cys Ala Ser Lys His
195 200 205

Ala Leu Arg Gly Phe Phe Asn Gly Leu Arg Thr Glu Leu Ala Thr Tyr
210 215 220

Pro Gly Ile Ile Val Ser Asn Ile Cys Pro Gly Pro Val Gln Ser Asn
 225 230 235 240

Ile Val Glu Asn Ser Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn
 245 250 255

Asn Gly Asp Gln Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu
 260 265 270

Met Leu Ile Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu
 275 280 285

Gln Pro Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp
 290 295 300

Ala Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe
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Lys Ser Gly Val Asp Ala Asp Ser Ser Tyr Phe Lys Ile Phe Lys Thr
 325 330 335

Lys His Asp

<210> 235
 <211> 1833
 <212> DNA
 <213> human organism

<400> 235
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 gatgtgggca tgtggaatga tgagaggtgc agcaagaaga agcttgccct atgctacaca 420
 gctgcttga ccaatacatc ctgcagtggc cacggtgaat gtgtagagac catcaataat 480
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<210> 236
<211> 610
<212> PRT
<213> human organism

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<400> 236
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Met Ile Ala Ser Gln Phe Leu Ser Ala Leu Thr Leu Val Leu Leu Ile
1           5           10           15

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```
Lys Glu Ser Gly Ala Trp Ser Tyr Asn Thr Ser Thr Glu Ala Met Thr
```

20

25

30

Tyr Asp Glu Ala Ser Ala Tyr Cys Gln Gln Arg Tyr Thr His Leu Val
 35 40 45

Ala Ile Gln Asn Lys Glu Glu Ile Glu Tyr Leu Asn Ser Ile Leu Ser
 50 55 60

Tyr Ser Pro Ser Tyr Tyr Trp Ile Gly Ile Arg Lys Val Asn Asn Val
 65 70 75 80

Trp Val Trp Val Gly Thr Gln Lys Pro Leu Thr Glu Glu Ala Lys Asn
 85 90 95

Trp Ala Pro Gly Glu Pro Asn Asn Arg Gln Lys Asp Glu Asp Cys Val
 100 105 110

Glu Ile Tyr Ile Lys Arg Glu Lys Asp Val Gly Met Trp Asn Asp Glu
 115 120 125

Arg Cys Ser Lys Lys Lys Leu Ala Leu Cys Tyr Thr Ala Ala Cys Thr
 130 135 140

Asn Thr Ser Cys Ser Gly His Gly Glu Cys Val Glu Thr Ile Asn Asn
 145 150 155 160

Tyr Thr Cys Lys Cys Asp Pro Gly Phe Ser Gly Leu Lys Cys Glu Gln
 165 170 175

Ile Val Asn Cys Thr Ala Leu Glu Ser Pro Glu His Gly Ser Leu Val
 180 185 190

Cys Ser His Pro Leu Gly Asn Phe Ser Tyr Asn Ser Ser Cys Ser Ile
 195 200 205

Ser Cys Asp Arg Gly Tyr Leu Pro Ser Ser Met Glu Thr Met Gln Cys
 210 215 220

Met Ser Ser Gly Glu Trp Ser Ala Pro Ile Pro Ala Cys Asn Val Val
 225 230 235 240

Glu Cys Asp Ala Val Thr Asn Pro Ala Asn Gly Phe Val Glu Cys Phe
 245 250 255

Gln Asn Pro Gly Ser Phe Pro Trp Asn Thr Thr Cys Thr Phe Asp Cys
260 265 270

Glu Glu Gly Phe Glu Leu Met Gly Ala Gln Ser Leu Gln Cys Thr Ser
275 280 285

Ser Gly Asn Trp Asp Asn Glu Lys Pro Thr Cys Lys Ala Val Thr Cys
290 295 300

Arg Ala Val Arg Gln Pro Gln Asn Gly Ser Val Arg Cys Ser His Ser
305 310 315 320

Pro Ala Gly Glu Phe Thr Phe Lys Ser Ser Cys Asn Phe Thr Cys Glu
325 330 335

Glu Gly Phe Met Leu Gln Gly Pro Ala Gln Val Glu Cys Thr Thr Gln
340 345 350

Gly Gln Trp Thr Gln Gln Ile Pro Val Cys Glu Ala Phe Gln Cys Thr
355 360 365

Ala Leu Ser Asn Pro Glu Arg Gly Tyr Met Asn Cys Leu Pro Ser Ala
370 375 380

Ser Gly Ser Phe Arg Tyr Gly Ser Ser Cys Glu Phe Ser Cys Glu Gln
385 390 395 400

Gly Phe Val Leu Lys Gly Ser Lys Arg Leu Gln Cys Gly Pro Thr Gly
405 410 415

Glu Trp Asp Asn Glu Lys Pro Thr Cys Glu Ala Val Arg Cys Asp Ala
420 425 430

Val His Gln Pro Pro Lys Gly Leu Val Arg Cys Ala His Ser Pro Ile
435 440 445

Gly Glu Phe Thr Tyr Lys Ser Ser Cys Ala Phe Ser Cys Glu Glu Gly
450 455 460

Phe Glu Leu Tyr Gly Ser Thr Gln Leu Glu Cys Thr Ser Gln Gly Gln
465 470 475 480

Trp Thr Glu Glu Val Pro Ser Cys Gln Val Val Lys Cys Ser Ser Leu
485 490 495

Ala Val Pro Gly Lys Ile Asn Met Ser Cys Ser Gly Glu Pro Val Phe
500 505 510

Gly Thr Val Cys Lys Phe Ala Cys Pro Glu Gly Trp Thr Leu Asn Gly
515 520 525

Ser Ala Ala Arg Thr Cys Gly Ala Thr Gly His Trp Ser Gly Leu Leu
530 535 540

Pro Thr Cys Glu Ala Pro Thr Glu Ser Asn Ile Pro Leu Val Ala Gly
545 550 555 560

Leu Ser Ala Ala Gly Leu Ser Leu Leu Thr Leu Ala Pro Phe Leu Leu
565 570 575

Trp Leu Arg Lys Cys Leu Arg Lys Ala Lys Lys Phe Val Pro Ala Ser
580 585 590

Ser Cys Gln Ser Leu Glu Ser Asp Gly Ser Tyr Gln Lys Pro Ser Tyr
595 600 605

Ile Leu
610

<210> 237
<211> 3793
<212> DNA
<213> human organism

<400> 237
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gaagaagaaa tctctgaact taaagctgaa agaaacaaca caagactatt actggagcat 420

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35 40 45

Leu Arg Glu Thr Gln Glu Ser Leu Ser Leu Ala Gln Gln Arg Leu Gln
50 55 60

Asp Val Ile Tyr Asp Arg Asp Ser Leu Gln Arg Gln Leu Asn Ser Ala
65 70 75 80

Leu Pro Gln Asp Ile Glu Ser Leu Thr Gly Gly Leu Ala Gly Ser Lys
85 90 95

Gly Ala Asp Pro Pro Glu Phe Ala Ala Leu Thr Lys Glu Leu Asn Ala
100 105 110

Cys Arg Glu Gln Leu Leu Glu Lys Glu Glu Glu Ile Ser Glu Leu Lys
115 120 125

Ala Glu Arg Asn Asn Thr Arg Leu Leu Leu Glu His Leu Glu Cys Leu
130 135 140

Val Ser Arg His Glu Arg Ser Leu Arg Met Thr Val Val Lys Arg Gln
145 150 155 160

Ala Gln Ser Pro Ser Gly Val Ser Ser Glu Val Glu Val Leu Lys Ala
165 170 175

Leu Lys Ser Leu Phe Glu His His Lys Ala Leu Asp Glu Lys Val Arg
180 185 190

Glu Arg Leu Arg Val Ser Leu Glu Arg Val Ser Ala Leu Glu Glu Glu

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His Ile Gln Arg Lys Met Ala Ser Ser Glu Gly Ser Thr Glu Ser Glu 225 230 235 240		
His Leu Glu Gly Met Glu Pro Gly Gln Lys Val His Glu Lys Arg Leu 245 250 255		
Ser Asn Gly Ser Ile Asp Ser Thr Asp Glu Thr Ser Gln Ile Val Glu 260 265 270		
Leu Gln Glu Leu Leu Glu Lys Gln Asn Tyr Glu Met Ala Gln Met Lys 275 280 285		
Glu Arg Leu Ala Ala Leu Ser Ser Arg Val Gly Glu Val Glu Gln Glu 290 295 300		
Ala Glu Thr Ala Arg Lys Asp Leu Ile Lys Thr Glu Glu Met Asn Thr 305 310 315 320		
Lys Tyr Gln Arg Asp Ile Arg Glu Ala Met Ala Gln Lys Glu Asp Met 325 330 335		
Glu Glu Arg Ile Thr Thr Leu Glu Lys Arg Tyr Leu Ser Ala Gln Arg 340 345 350		
Glu Ser Thr Ser Ile His Asp Met Asn Asp Lys Leu Glu Asn Glu Leu 355 360 365		
Ala Asn Lys Glu Ala Ile Leu Arg Gln Met Glu Glu Lys Asn Arg Gln 370 375 380		
Leu Gln Glu Arg Leu Glu Leu Ala Glu Gln Lys Leu Gln Gln Thr Met 385 390 395 400		
Arg Lys Ala Glu Thr Leu Pro Glu Val Glu Ala Glu Leu Ala Gln Arg 405 410 415		
Ile Ala Ala Leu Thr Lys Ala Glu Glu Arg His Gly Asn Ile Glu Glu 420 425 430		

Arg Met Arg His Leu Glu Gly Gln Leu Glu Glu Lys Asn Gln Glu Leu
435 440 445

Gln Arg Ala Arg Gln Arg Glu Lys Met Asn Glu Glu His Asn Lys Arg
450 455 460

Leu Ser Asp Thr Val Asp Arg Leu Leu Thr Glu Ser Asn Glu Arg Leu
465 470 475 480

Gln Leu His Leu Lys Glu Arg Met Ala Ala Leu Glu Glu Lys Asn Val
485 490 495

Leu Ile Gln Glu Ser Glu Thr Phe Arg Lys Asn Leu Glu Glu Ser Leu
500 505 510

His Asp Lys Glu Arg Leu Ala Glu Glu Ile Glu Lys Leu Arg Ser Glu
515 520 525

Leu Asp Gln Leu Lys Met Arg Thr Gly Ser Leu Ile Glu Pro Thr Ile
530 535 540

Pro Arg Thr His Leu Asp Thr Ser Ala Glu Leu Arg Tyr Ser Val Gly
545 550 555 560

Ser Leu Val Asp Ser Gln Ser Asp Tyr Arg Thr Thr Lys Val Ile Arg
565 570 575

Arg Pro Arg Arg Gly Arg Met Gly Val Arg Arg Asp Glu Pro Lys Val
580 585 590

Lys Ser Leu Gly Asp His Glu Trp Asn Arg Thr Gln Gln Ile Gly Val
595 600 605

Leu Ser Ser His Pro Phe Glu Ser Asp Thr Glu Met Ser Asp Ile Asp
610 615 620

Asp Asp Asp Arg Glu Thr Ile Phe Ser Ser Met Asp Leu Leu Ser Pro
625 630 635 640

Ser Gly His Ser Asp Ala Gln Thr Leu Ala Met Met Leu Gln Glu Gln
645 650 655

Leu Asp Ala Ile Asn Lys Glu Ile Arg Leu Ile Gln Glu Glu Lys Glu
660 665 670

Ser Thr Glu Leu Arg Ala Glu Glu Ile Glu Asn Arg Val Ala Ser Val
675 680 685

Ser Leu Glu Gly Leu Asn Leu Ala Arg Val His Pro Gly Thr Ser Ile
690 695 700

Thr Ala Ser Val Thr Ala Ser Ser Leu Ala Ser Ser Ser Pro Pro Ser
705 710 715 720

Gly His Ser Thr Pro Lys Leu Thr Pro Arg Ser Pro Ala Arg Glu Met
725 730 735

Asp Arg Met Gly Val Met Thr Leu Pro Ser Asp Leu Arg Lys His Arg
740 745 750

Arg Lys Ile Ala Val Val Glu Glu Asp Gly Arg Glu Asp Lys Ala Thr
755 760 765

Ile Lys Cys Glu Thr Ser Pro Pro Pro Thr Pro Arg Ala Leu Arg Met
770 775 780

Thr His Thr Leu Pro Ser Ser Tyr His Asn Asp Ala Arg Ser Ser Leu
785 790 795 800

Ser Val Ser Leu Glu Pro Glu Ser Leu Gly Leu Gly Ser Ala Asn Ser
805 810 815

Ser Gln Asp Ser Leu His Lys Ala Pro Lys Lys Lys Gly Ile Lys Ser
820 825 830

Ser Ile Gly Arg Leu Phe Gly Lys Lys Glu Lys Ala Arg Leu Gly Gln
835 840 845

Leu Arg Gly Phe Met Glu Thr Glu Ala Ala Ala Gln Glu Ser Leu Gly
850 855 860

Leu Gly Lys Leu Gly Thr Gln Ala Glu Lys Asp Arg Arg Leu Lys Lys
865 870 875 880

Lys His Glu Leu Leu Glu Glu Ala Arg Arg Lys Gly Leu Pro Phe Ala
885 890 895

Gln Trp Asp Gly Pro Thr Val Val Ala Trp Leu Glu Leu Trp Leu Gly
900 905 910

Met Pro Ala Trp Tyr Val Ala Ala Cys Arg Ala Asn Val Lys Ser Gly
915 920 925

Ala Ile Met Ser Ala Leu Ser Asp Thr Glu Ile Gln Arg Glu Ile Gly
930 935 940

Ile Ser Asn Pro Leu His Arg Leu Lys Leu Arg Leu Ala Ile Gln Glu
945 950 955 960

Met Val Ser Leu Thr Ser Pro Ser Ala Pro Pro Thr Ser Arg Thr Pro
965 970 975

Ser Gly Asn Val Trp Val Thr His Glu Glu Met Glu Asn Leu Ala Ala
980 985 990

Pro Ala Lys Thr Lys Glu Ser Glu Glu Gly Ser Trp Ala Gln Cys Pro
995 1000 1005

Val Phe Leu Gln Thr Leu Ala Tyr Gly Asp Met Asn His Glu Trp
1010 1015 1020

Ile Gly Asn Glu Trp Leu Pro Ser Leu Gly Leu Pro Gln Tyr Arg
1025 1030 1035

Ser Tyr Phe Met Glu Cys Leu Val Asp Ala Arg Met Leu Asp His
1040 1045 1050

Leu Thr Lys Lys Asp Leu Arg Val His Leu Lys Met Val Asp Ser
1055 1060 1065

Phe His Arg Thr Ser Leu Gln Tyr Gly Ile Met Cys Leu Lys Arg
1070 1075 1080

Leu Asn Tyr Asp Arg Lys Glu Leu Glu Arg Arg Arg Glu Ala Ser
1085 1090 1095

Gln His Glu Ile Lys Asp Val Leu Val Trp Ser Asn Asp Arg Ile

1100	1105	1110
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Ile Leu Glu Ser Gly Val 1130	His Gly Ser Leu Ile 1135	Ala Leu Asp Glu 1140
Asn Phe Asp Tyr Ser Ser 1145	Leu Thr Leu Leu Leu 1150	Gln Ile Pro Thr 1155
Gln Asn Thr Gln Ala Arg 1160	Gln Ile Leu Glu Arg 1165	Glu Tyr Asn Asn 1170
Leu Leu Ala Leu Gly Thr 1175	Glu Arg Arg Leu Asp 1180	Glu Ser Asp Asp 1185
Lys Asn Phe Arg Arg Gly 1190	Ser Thr Trp Arg Arg 1195	Gln Phe Pro Pro 1200
Arg Glu Val His Gly Ile 1205	Ser Met Met Pro Gly 1210	Ser Ser Glu Thr 1215
Leu Pro Ala Gly Phe Arg 1220	Leu Thr Thr Thr Ser 1225	Gly Gln Ser Arg 1230
Lys Met Thr Thr Asp Val 1235	Ala Ser Ser Arg Leu 1240	Gln Arg Leu Asp 1245
Asn Ser Thr Val Arg Thr 1250	Tyr Ser Cys Leu Glu 1255	

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tttacaacta tggctttatt aaccataatg gaattctcag tatatcaaga tacatggatg	180
aagtatgaat acgaagtaga caaggatttt tctagcaaata taagaattaa tatagatatt	240

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caagatgtga tatttaaaag tgcttttaaa agtacatcaa cagctcttcc accaagagaa      480
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gaaataattt gctgtcgttt cagacttgga tcctataaac ctgtcaattc tgttcctttt    1080
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<400> 240

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Asp Ala Phe Pro Lys Val Pro Glu Ser Tyr Val Glu Thr Ser Ala Ser
          20          25          30

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Gly Gly Thr Val Ser Leu Ile Ala Phe Thr Thr Met Ala Leu Leu Thr
          35          40          45

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Ile Met Glu Phe Ser Val Tyr Gln Asp Thr Trp Met Lys Tyr Glu Tyr
          50          55          60

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Glu Val Asp Lys Asp Phe Ser Ser Lys Leu Arg Ile Asn Ile Asp Ile
65          70          75          80

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Thr Val Ala Met Lys Cys Gln Tyr Val Gly Ala Asp Val Leu Asp Leu
85 90 95

Ala Glu Thr Met Val Ala Ser Ala Asp Gly Leu Val Tyr Glu Pro Thr
100 105 110

Val Phe Asp Leu Ser Pro Gln Gln Lys Glu Trp Gln Arg Met Leu Gln
115 120 125

Leu Ile Gln Ser Arg Leu Gln Glu Glu His Ser Leu Gln Asp Val Ile
130 135 140

Phe Lys Ser Ala Phe Lys Ser Thr Ser Thr Ala Leu Pro Pro Arg Glu
145 150 155 160

Asp Asp Ser Ser Gln Ser Pro Asn Ala Cys Arg Ile His Gly His Leu
165 170 175

Tyr Val Asn Lys Val Ala Gly Asn Phe His Ile Thr Val Gly Lys Ala
180 185 190

Ile Pro His Pro Arg Gly His Ala His Leu Ala Ala Leu Val Asn His
195 200 205

Glu Ser Tyr Asn Phe Ser His Arg Ile Asp His Leu Ser Phe Gly Glu
210 215 220

Leu Val Pro Ala Ile Ile Asn Pro Leu Asp Gly Thr Glu Lys Ile Ala
225 230 235 240

Ile Asp His Asn Gln Met Phe Gln Tyr Phe Ile Thr Val Val Pro Thr
245 250 255

Lys Leu His Thr Tyr Lys Ile Ser Ala Asp Thr His Gln Phe Ser Val
260 265 270

Thr Glu Arg Glu Arg Ile Ile Asn His Ala Ala Gly Ser His Gly Val
275 280 285

Ser Gly Ile Phe Met Lys Tyr Asp Leu Ser Ser Leu Met Val Thr Val
290 295 300

Thr Glu Glu His Met Pro Phe Trp Gln Phe Phe Val Arg Leu Cys Gly
 305 310 315 320

Ile Val Gly Gly Ile Phe Ser Thr Thr Gly Met Leu His Gly Ile Gly
 325 330 335

Lys Phe Ile Val Glu Ile Ile Cys Cys Arg Phe Arg Leu Gly Ser Tyr
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Leu Pro Leu Leu Glu Asn Asn Thr His
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Thr Leu Leu Ala Leu Ser Cys His Glu Gln Glu Met Val Val Ser Ser
35 40 45

Leu Val Ile Gly Ala Leu Leu Ala Ser Leu Thr Gly Gly Val Leu Ile
50 55 60

Asp Arg Tyr Gly Arg Arg Thr Ala Ile Ile Leu Ser Ser Cys Leu Leu
65 70 75 80

Gly Leu Gly Ser Leu Val Leu Ile Leu Ser Leu Ser Tyr Thr Val Leu
85 90 95

Ile Val Gly Arg Ile Ala Ile Gly Val Ser Ile Ser Leu Ser Ser Ile
100 105 110

Ala Thr Cys Val Tyr Ile Ala Glu Ile Ala Pro Gln His Arg Arg Gly
115 120 125

Leu Leu Val Ser Leu Asn Glu Leu Met Ile Val Ile Gly Ile Leu Ser
130 135 140

Ala Tyr Ile Ser Asn Tyr Ala Phe Ala Asn Val Phe His Gly Trp Lys
145 150 155 160

Tyr Met Phe Gly Leu Val Ile Pro Leu Gly Val Leu Gln Ala Ile Ala
165 170 175

Met Tyr Phe Leu Pro Pro Ser Pro Arg Phe Leu Val Met Lys Gly Gln
180 185 190

Glu Gly Ala Ala Ser Lys Val Leu Gly Arg Leu Arg Ala Leu Ser Asp
195 200 205

Thr Thr Glu Glu Leu Thr Val Ile Lys Ser Ser Leu Lys Asp Glu Tyr
210 215 220

Gln Tyr Ser Phe Trp Asp Leu Phe Arg Ser Lys Asp Asn Met Arg Thr
225 230 235 240

Arg Ile Met Ile Gly Leu Thr Leu Val Phe Phe Val Gln Ile Thr Gly
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Gln Pro Asn Ile Leu Phe Tyr Ala Ser Thr Val Leu Lys Ser Val Gly
260 265 270

Phe Gln Ser Asn Glu Ala Ala Ser Leu Ala Ser Thr Gly Val Gly Val
275 280 285

Val Lys Val Ile Ser Thr Ile Pro Ala Thr Leu Leu Val Asp His Val
290 295 300

Gly Ser Lys Thr Phe Leu Cys Ile Gly Ser Ser Val Met Ala Ala Ser
305 310 315 320

Leu Val Thr Met Gly Ile Val Asn Leu Asn Ile His Met Asn Phe Thr
325 330 335

His Ile Cys Arg Ser His Asn Ser Ile Asn Gln Ser Leu Asp Glu Ser
340 345 350

Val Ile Tyr Gly Pro Gly Asn Leu Ser Thr Asn Asn Asn Thr Leu Arg
355 360 365

Asp His Phe Lys Gly Ile Ser Ser His Ser Arg Ser Ser Leu Met Pro
370 375 380

Leu Arg Asn Asp Val Asp Lys Arg Gly Glu Thr Thr Ser Ala Ser Leu
385 390 395 400

Leu Asn Ala Gly Leu Ser His Thr Glu Tyr Gln Ile Val Thr Asp Pro
405 410 415

Gly Asp Val Pro Ala Phe Leu Lys Trp Leu Ser Leu Ala Ser Leu Leu
420 425 430

Val Tyr Val Ala Ala Phe Ser Ile Gly Leu Gly Pro Met Pro Trp Leu
435 440 445

Val Leu Ser Glu Ile Phe Pro Gly Gly Ile Arg Gly Arg Ala Met Ala
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465 470 475 480

Phe Leu Thr Val Thr Asp Leu Ile Gly Leu Pro Trp Val Cys Phe Ile
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Tyr Thr Ile Met Ser Leu Asp Leu Ile Gly Leu Pro Trp Val Cys Phe
500 505 510

Ile Tyr Thr Ile Met Ser Leu Ala Ser Leu Leu Phe Val Val Met Phe
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Ala Lys Val Asn Tyr Val Lys Asn Asn Ile Cys Phe Met Ser His His
545 550 555 560

Gln Glu Glu Leu Val Pro Lys Gln Pro Gln Lys Arg Lys Pro Gln Glu
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Leu Ser Pro Glu Thr
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<221> misc_feature
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 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (238)..(238)
 <223> n is a, c, g, or t

<400> 243
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 gatttcaaga aattacagga aaactttcca aagttccatc tcacagaann ttatttttnc 240
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 catctcagac atcgacagat gattacatca cttatagttc tagtaaattt attaataata 360
 aactcagaga cattccaata tccacattgc ttacaccatt aggcatagat tcagtgtcag 420
 ctatgacaat tgaaaatgag ctgttttgtg atttaaaggt ttaaatttct ctaaccaaac 480
 tgcttgatcc agatgcagga ctgcaaatgt taatatttgt tctggaagaa caatcaaata 540
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 agcctactaa atcagaatga aaatagaagt acaagattat aaacaaaatg caatcaaact 660
 tttcttaagc ttacctaaag ttatttcac tcgaaaatttc aagcaacttt gttcaacatt 720
 aaattgacaa tctaaactaa caagtctttt gaatttatgc atggtagtaa acattctctc 780
 tattaacttt attacctaag gctaaaccta aaatttttaa gcaaaattag aaaaatagtc 840
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 cttgggtttt tatttgagga gtctgtgcaa aatgtcacta aaaataaatt agcactagaa 960
 attatttcta aataccaaa 979

<210> 244
 <211> 2443
 <212> DNA
 <213> human organism

<400> 244
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 gtggccccag tgcgggggt gacactcatt cagccgggga aggtgaggcg agtagaggct 180

ggtgcggaac ttgccgcccc cagcagcgcc ggcgggctaa gcccagggcc gggcagacaa	240
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gagggggcag cgcgctgctg gctctgtgcg gggcaactggc tgcctgcggg tggctcctgg	360
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acctgatcca cagtaccgc attcacatca tgccttcctt gaaccagat ggctttgaga	780
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cagctccagg ctatctggca ataacaaaga aagtggcagt tccttacagc cctgctgctg	1620
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cagttaatac ttaacattga tttatttttt aatcatttaa atattaatca actttcctta	1860
aaataaatag cctcttaggt aaaaatataa gaacttgata tatttcattc tcttatatag	1920

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<210> 245
<211> 476
<212> PRT
<213> human organism

<400> 245

Met Ala Gly Arg Gly Gly Ser Ala Leu Leu Ala Leu Cys Gly Ala Leu
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Ala Ala Cys Gly Trp Leu Leu Gly Ala Glu Ala Gln Glu Pro Gly Ala
20 25 30

Pro Ala Ala Gly Met Arg Arg Arg Arg Arg Leu Gln Gln Glu Asp Gly
35 40 45

Ile Ser Phe Glu Tyr His Arg Tyr Pro Glu Leu Arg Glu Ala Leu Val
50 55 60

Ser Val Trp Leu Gln Cys Thr Ala Ile Ser Arg Ile Tyr Thr Val Gly
65 70 75 80

Arg Ser Phe Glu Gly Arg Glu Leu Leu Val Ile Glu Leu Ser Asp Asn
85 90 95

Pro Gly Val His Glu Pro Gly Glu Pro Glu Phe Lys Tyr Ile Gly Asn
100 105 110

Met His Gly Asn Glu Ala Val Gly Arg Glu Leu Leu Ile Phe Leu Ala
115 120 125

Gln Tyr Leu Cys Asn Glu Tyr Gln Lys Gly Asn Glu Thr Ile Val Asn
130 135 140

Leu Ile His Ser Thr Arg Ile His Ile Met Pro Ser Leu Asn Pro Asp
145 150 155 160

Gly Phe Glu Lys Ala Ala Ser Gln Pro Gly Glu Leu Lys Asp Trp Phe
165 170 175

Val Gly Arg Ser Asn Ala Gln Gly Ile Asp Leu Asn Arg Asn Phe Pro
180 185 190

Asp Leu Asp Arg Ile Val Tyr Val Asn Glu Lys Glu Gly Gly Pro Asn
195 200 205

Asn His Leu Leu Lys Asn Met Lys Lys Ile Val Asp Gln Asn Thr Lys
210 215 220

Leu Ala Pro Glu Thr Lys Ala Val Ile His Trp Ile Met Asp Ile Pro
225 230 235 240

Phe Val Leu Ser Ala Asn Leu His Gly Gly Asp Leu Val Ala Asn Tyr
245 250 255

Pro Tyr Asp Glu Thr Arg Ser Gly Ser Ala His Glu Tyr Ser Ser Ser
260 265 270

Pro Asp Asp Ala Ile Phe Gln Ser Leu Ala Arg Ala Tyr Ser Ser Phe
275 280 285

Asn Pro Ala Met Ser Asp Pro Asn Arg Pro Pro Cys Arg Lys Asn Asp
290 295 300

Asp Asp Ser Ser Phe Val Asp Gly Thr Thr Asn Gly Gly Ala Trp Tyr
305 310 315 320

Ser Val Pro Gly Gly Met Gln Asp Phe Asn Tyr Leu Ser Ser Asn Cys
325 330 335

Phe Glu Ile Thr Val Glu Leu Ser Cys Glu Lys Phe Pro Pro Glu Glu
340 345 350

Thr Leu Lys Thr Tyr Trp Glu Asp Asn Lys Asn Ser Leu Ile Ser Tyr
 355 360 365

Leu Glu Gln Ile His Arg Gly Val Lys Gly Phe Val Arg Asp Leu Gln
 370 375 380

Gly Asn Pro Ile Ala Asn Ala Thr Ile Ser Val Glu Gly Ile Asp His
 385 390 395 400

Asp Val Thr Ser Ala Lys Asp Gly Asp Tyr Trp Arg Leu Leu Ile Pro
 405 410 415

Gly Asn Tyr Lys Leu Thr Ala Ser Ala Pro Gly Tyr Leu Ala Ile Thr
 420 425 430

Lys Lys Val Ala Val Pro Tyr Ser Pro Ala Ala Gly Val Asp Phe Glu
 435 440 445

Leu Glu Ser Phe Ser Glu Arg Lys Glu Glu Glu Lys Glu Glu Leu Met
 450 455 460

Glu Trp Trp Lys Met Met Ser Glu Thr Leu Asn Phe
 465 470 475

<210> 246
 <211> 1926
 <212> DNA
 <213> human organism

<400> 246
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 gacccgatc tcaacaatcc cttcaaggat ccatacagta cacaagtgac aagaaatggt 180
 ccaccaggac ttgatgaata taatccattc tcggattcta gaacacctcc accaggcggt 240
 gtgaagatgc ctaatgtacc caatacacia ccagcaataa tgaaaccaac agaggaacat 300
 ccagcttata cacagattgc aaaggaacat gcattggccc aagctgaact tcttaagcgc 360
 caagaagaac tagaaagaaa agccgcagaa ttagatcgtc gggaacgaga aatgcaaaac 420
 ctcaagtcaac atggtagaaa aaatatttgg ccacctcttc ctagcaattt tctgtcgga 480
 ccttggtttct atcaggaatt ttctgtagac attcctgtag aattccaaaa gacagtaaag 540

cttatgtact acttgtggat gttccatgca gtaacactgt ttctaaatat cttcggatgc	600
ttggcttggg tttgtgttga ttctgcaaga gcggttgatt ttggattgag tctcctgtgg	660
ttcttgcttt ttactccttg ttcatttgtc tgttggtaca gaccacttta tggagctttc	720
aggagtgaca gttcatttag attcctttaga ttcttcttcg tctatatttg tcagtttgct	780
gtacatgtac tccaagctgc aggatttcat aactggggca attgtggttg gatttcatcc	840
cttactgggc tcaacaaaaa tattcctgtt ggaatcatga tgataatcat agcagcactt	900
ttcacagcat cagcagtcac ctactagtt atgttcaaaa aagtacatgg actatatcgc	960
acaacagggtg ctagttttga gaaggcccaa caggagttag caacagggtg gatgtccaac	1020
aaaactgtcc agaccgcagc tgcaaagca gcttcaactg cagcatctag tgcagctcag	1080
aatgctttca agggtaacca gatttaagaa tcttcaaaca atacactgtt accttttgac	1140
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cagacagcat ggatatttcc tgttcacttg tgcattgggt aaaaccagga aaacttcctt	1260
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acatgctaaa taaatattct ccatattttt gggggatgac attcagtga ttatttcagt	1380
ggtgaccac tgaaaattaa taatggtact tatgattaaa aacgcattta atactaactg	1440
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ttcattcctt tttccctatt tatattgaaa gaaataggcc agcagagact tagggatttt	1560
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ataacaatct ctaatttgc tgggcaccac atttcttata ttaaaagaat tagtgttttg	1740
gcttctgtac tgcttatggt tgtaggattc aggggttaat ggaatcacag aaatgatatt	1800
ctgcaagaat ttcttttaaa taaaaagttt gggggtgcaa tataagaagt ttatataata	1860
tgcagtacat tatccaaaag agaaggtagt taatgcagta gaaagtagtg gtaataattc	1920
cttttt	1926

<210> 247

<211> 338

<212> PRT

<213> human organism

<400> 247

Met Ser Asp Phe Asp Ser Asn Pro Phe Ala Asp Pro Asp Leu Asn Asn

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Gly Leu Asp Glu Tyr Asn Pro Phe Ser Asp Ser Arg Thr Pro Pro Pro	35	40	45
Gly Gly Val Lys Met Pro Asn Val Pro Asn Thr Gln Pro Ala Ile Met	50	55	60
Lys Pro Thr Glu Glu His Pro Ala Tyr Thr Gln Ile Ala Lys Glu His	65	70	75
Ala Leu Ala Gln Ala Glu Leu Leu Lys Arg Gln Glu Glu Leu Glu Arg	85	90	95
Lys Ala Ala Glu Leu Asp Arg Arg Glu Arg Glu Met Gln Asn Leu Ser	100	105	110
Gln His Gly Arg Lys Asn Ile Trp Pro Pro Leu Pro Ser Asn Phe Pro	115	120	125
Val Gly Pro Cys Phe Tyr Gln Glu Phe Ser Val Asp Ile Pro Val Glu	130	135	140
Phe Gln Lys Thr Val Lys Leu Met Tyr Tyr Leu Trp Met Phe His Ala	145	150	155
Val Thr Leu Phe Leu Asn Ile Phe Gly Cys Leu Ala Trp Phe Cys Val	165	170	175
Asp Ser Ala Arg Ala Val Asp Phe Gly Leu Ser Ile Leu Trp Phe Leu	180	185	190
Leu Phe Thr Pro Cys Ser Phe Val Cys Trp Tyr Arg Pro Leu Tyr Gly	195	200	205
Ala Phe Arg Ser Asp Ser Ser Phe Arg Phe Phe Val Phe Phe Val	210	215	220
Tyr Ile Cys Gln Phe Ala Val His Val Leu Gln Ala Ala Gly Phe His	225	230	235
			240

Asn Trp Gly Asn Cys Gly Trp Ile Ser Ser Leu Thr Gly Leu Asn Gln
 245 250 255

Asn Ile Pro Val Gly Ile Met Met Ile Ile Ile Ala Ala Leu Phe Thr
 260 265 270

Ala Ser Ala Val Ile Ser Leu Val Met Phe Lys Lys Val His Gly Leu
 275 280 285

Tyr Arg Thr Thr Gly Ala Ser Phe Glu Lys Ala Gln Gln Glu Phe Ala
 290 295 300

Thr Gly Val Met Ser Asn Lys Thr Val Gln Thr Ala Ala Ala Asn Ala
 305 310 315 320

Ala Ser Thr Ala Ala Ser Ser Ala Ala Gln Asn Ala Phe Lys Gly Asn
 325 330 335

Gln Ile

<210> 248
 <211> 615
 <212> DNA
 <213> human organism

<400> 248
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 agtgcactac aatttcctaa aaagtcttct caccctcaca ggactgctct acatctggcc 180
 tctgccaatg gaaattcaga agtagtaaaa ctctgctgg acagacgatg tcaacttaat 240
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 tgtgcgtaa tggtgctgga acatggcact gatccgaata ttccagatga gtatggaaat 360
 accgctctac actatgctat ctacaatgaa gataaattaa tggccaaagc actgctctta 420
 tacgggtgctg atatcgaatc aaaaaacaag catggcctca caccactggt acttggtgta 480
 catgagcaaa aacagcaagt ggtgaaattt ttaatcaaga aaaaagcaaa tttaaagtca 540
 ctggatagat atggaagggtg tgtgaccttg ggaacgttat ttaccaccaa atatgttgtc 600
 atatatgaaa agtag 615

<210> 249
<211> 204
<212> PRT
<213> human organism

<400> 249

Met Arg Asp Asn Lys Ser Cys Ala Phe Phe Met Gly Lys Leu Asn Val
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Cys Phe Glu Gly Thr Val Ile Ala Gly Tyr Ser Val Phe Ala Thr Thr
20 25 30

Cys Ile Ile His Leu Ala Val Ala Ser Ala Leu Gln Phe Pro Lys Lys
35 40 45

Ser Ser His Pro His Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly
50 55 60

Asn Ser Glu Val Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn
65 70 75 80

Ile Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala Val Gln Cys
85 90 95

Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro
100 105 110

Asn Ile Pro Asp Glu Tyr Gly Asn Thr Ala Leu His Tyr Ala Ile Tyr
115 120 125

Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp
130 135 140

Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val
145 150 155 160

His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala
165 170 175

Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Cys Val Thr Leu Gly Thr
180 185 190

Leu Phe Thr Thr Lys Tyr Val Val Ile Tyr Glu Lys
 195 200

<210> 250
 <211> 3342
 <212> DNA
 <213> human organism

<400> 250
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 gaggacactt cctaccatca atgcgctcag cttgaagcca gagacgaagg caccgacagt 180
 ttattattaa acaatggcag cagcgccacg ctgaagacac gaacgcgctg ttatggaacc 240
 ccagagggtc tccccatcg tagcctgctc cagccgactc cgcccatg taaaacgaag 300
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 gccagggaaa attatattcc agatcatggt ggagggtgagg attcttgtgc caaacagac 600
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 tgcaccaaga aattttatttc aaaaataaag agcgtttcag catcagagga tttgttggaa 840
 gaaatagaat ctgagctctt atctacggag tttgcagaac atcgagtacc aaatggaatg 900
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 caggaacata tcataaaaaa gttaattaaa gaaaataaga agcatcagga gctcttcgta 1020
 gacatttggt cagaaaaaga caatttaaga gaagaactaa agaaaagaac agaaactgag 1080
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cacatcaaac aactggtgga agaaattagg aaaaaaaca aaataattca aagttatatt	2760
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ctaaaaata ttactttgaa ggaaaatcta caaacacttg gaacagaaat agaacgtctt	3000
attaaacacc agcatgaact agaacagagg acaaagaaaa cctaaaacaa gcctcttgct	3060
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 cttgtattca taagaagtgt tgaacattac aagggtttt at 3342

<210> 251
 <211> 1014
 <212> PRT
 <213> human organism

<400> 251

Met Val Ile Ile Tyr Leu Ser Phe Cys Asn Tyr Tyr Met Glu Phe Tyr
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Arg Glu Glu Leu Pro His Ile Asp Tyr Leu Ile Asp Ile Gln Phe Ala
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Thr Gly Lys Val Thr Gln Pro Gly Glu Asp Thr Ser Tyr His Gln Cys
 35 40 45

Ala Gln Leu Glu Ala Arg Asp Glu Gly Thr Asp Ser Leu Leu Leu Asn
 50 55 60

Asn Gly Ser Ser Ala Thr Leu Lys Thr Arg Thr Arg Cys Tyr Gly Thr
 65 70 75 80

Pro Arg Gly Leu Pro His Arg Ser Leu Leu Gln Pro Thr Pro Pro Thr
 85 90 95

Cys Lys Thr Lys Ile Arg Ser Arg Phe Glu Glu Leu Gln Ser Glu Leu
 100 105 110

Val Pro Val Ser Met Ser Glu Thr Asp His Ile Ala Ser Thr Ser Ser
 115 120 125

Asp Lys Asn Val Gly Lys Thr Pro Glu Leu Lys Glu Asp Ser Cys Asn
 130 135 140

Leu Phe Ser Gly Asn Glu Ser Ser Lys Leu Glu Asn Glu Ser Lys Leu
 145 150 155 160

Leu Ser Leu Asn Thr Asp Lys Thr Leu Cys Gln Pro Asn Glu His Asn

165

170

175

Asn Arg Ile Glu Ala Gln Glu Asn Tyr Ile Pro Asp His Gly Gly Gly
 180 185 190

Glu Asp Ser Cys Ala Lys Thr Asp Thr Gly Ser Glu Asn Ser Glu Gln
 195 200 205

Ile Ala Asn Phe Pro Ser Gly Asn Phe Ala Lys His Ile Ser Lys Thr
 210 215 220

Asn Glu Thr Glu Gln Lys Val Thr Gln Ile Leu Val Glu Leu Arg Ser
 225 230 235 240

Ser Thr Phe Pro Glu Ser Ala Asn Glu Lys Thr Tyr Ser Glu Ser Pro
 245 250 255

Tyr Asp Thr Asp Cys Thr Lys Lys Phe Ile Ser Lys Ile Lys Ser Val
 260 265 270

Ser Ala Ser Glu Asp Leu Leu Glu Glu Ile Glu Ser Glu Leu Leu Ser
 275 280 285

Thr Glu Phe Ala Glu His Arg Val Pro Asn Gly Met Asn Lys Gly Glu
 290 295 300

His Ala Leu Val Leu Phe Glu Lys Cys Val Gln Asp Lys Tyr Leu Gln
 305 310 315 320

Gln Glu His Ile Ile Lys Lys Leu Ile Lys Glu Asn Lys Lys His Gln
 325 330 335

Glu Leu Phe Val Asp Ile Cys Ser Glu Lys Asp Asn Leu Arg Glu Glu
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Leu Lys Lys Arg Thr Glu Thr Glu Lys Gln His Met Asn Thr Ile Lys
 355 360 365

Gln Leu Glu Ser Arg Ile Glu Glu Leu Asn Lys Glu Val Lys Ala Ser
 370 375 380

Arg Asp Gln Leu Ile Ala Gln Asp Val Thr Ala Lys Asn Ala Val Gln
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Gln Leu His Lys Glu Met Ala Gln Arg Met Glu Gln Ala Asn Lys Lys
405 410 415

Cys Glu Glu Ala Arg Gln Glu Lys Glu Ala Met Val Met Lys Tyr Val
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Arg Gly Glu Lys Glu Ser Leu Asp Leu Arg Lys Glu Lys Glu Thr Leu
435 440 445

Glu Lys Lys Leu Arg Asp Ala Asn Lys Glu Leu Glu Lys Asn Thr Asn
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Lys Ile Lys Gln Leu Ser Gln Glu Lys Gly Arg Leu His Gln Leu Tyr
465 470 475 480

Glu Thr Lys Glu Gly Glu Thr Thr Arg Leu Ile Arg Glu Ile Asp Lys
485 490 495

Leu Lys Glu Asp Ile Asn Ser His Val Ile Lys Val Lys Trp Ala Gln
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Asn Lys Leu Lys Ala Glu Met Asp Ser His Lys Glu Thr Lys Asp Lys
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Leu Lys Glu Thr Thr Thr Lys Leu Thr Gln Ala Lys Glu Glu Ala Asp
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Gln Ile Arg Lys Asn Cys Gln Asp Met Ile Lys Thr Tyr Gln Glu Ser
545 550 555 560

Glu Glu Ile Lys Ser Asn Glu Leu Asp Ala Lys Leu Arg Val Thr Lys
565 570 575

Gly Glu Leu Glu Lys Gln Met Gln Glu Lys Ser Asp Gln Leu Glu Met
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His His Ala Lys Ile Lys Glu Leu Glu Asp Leu Lys Arg Thr Phe Lys
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Glu Gly Met Asp Glu Leu Arg Thr Leu Arg Thr Lys Val Lys Cys Leu
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Glu Asp Glu Arg Leu Arg Thr Glu Asp Glu Leu Ser Lys Tyr Lys Glu
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Ile Ile Asn Arg Gln Lys Ala Glu Ile Gln Asn Leu Leu Asp Lys Val
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Lys Thr Ala Asp Gln Leu Gln Glu Gln Leu Gln Arg Gly Lys Gln Glu
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Ile Glu Asn Leu Lys Glu Glu Val Glu Ser Leu Asn Ser Leu Ile Asn
675 680 685

Asp Leu Gln Lys Asp Ile Glu Gly Ser Arg Lys Arg Glu Ser Glu Leu
690 695 700

Leu Leu Phe Thr Glu Arg Leu Thr Ser Lys Asn Ala Gln Leu Gln Ser
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Glu Ser Asn Ser Leu Gln Ser Gln Phe Asp Lys Val Ser Cys Ser Glu
725 730 735

Ser Gln Leu Gln Ser Gln Cys Glu Gln Met Lys Gln Thr Asn Ile Asn
740 745 750

Leu Glu Ser Arg Leu Leu Lys Glu Glu Glu Leu Arg Lys Glu Glu Val
755 760 765

Gln Thr Leu Gln Ala Glu Leu Ala Cys Arg Gln Thr Glu Val Lys Ala
770 775 780

Leu Ser Thr Gln Val Glu Glu Leu Lys Asp Glu Leu Val Thr Gln Arg
785 790 795 800

Arg Lys His Ala Ser Ser Ile Lys Asp Leu Thr Lys Gln Leu Gln Gln
805 810 815

Ala Arg Arg Lys Leu Asp Gln Val Glu Ser Gly Ser Tyr Asp Lys Glu
820 825 830

Val Ser Ser Met Gly Ser Arg Ser Ser Ser Ser Gly Ser Leu Asn Ala
835 840 845

Arg Ser Ser Ala Glu Asp Arg Ser Pro Glu Asn Thr Gly Ser Ser Val
 850 855 860

Ala Val Asp Asn Phe Pro Gln Val Asp Lys Ala Met Leu Ile Glu Arg
 865 870 875 880

Ile Val Arg Leu Gln Lys Ala His Ala Arg Lys Asn Glu Lys Ile Glu
 885 890 895

Phe Met Glu Asp His Ile Lys Gln Leu Val Glu Glu Ile Arg Lys Lys
 900 905 910

Thr Lys Ile Ile Gln Ser Tyr Ile Leu Arg Glu Glu Ser Gly Thr Leu
 915 920 925

Ser Ser Glu Ala Ser Asp Phe Asn Lys Val His Leu Ser Arg Arg Gly
 930 935 940

Gly Ile Met Ala Ser Leu Tyr Thr Ser His Pro Ala Asp Asn Gly Leu
 945 950 955 960

Thr Leu Glu Leu Ser Leu Glu Ile Asn Arg Lys Leu Gln Ala Val Leu
 965 970 975

Glu Asp Thr Leu Leu Lys Asn Ile Thr Leu Lys Glu Asn Leu Gln Thr
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Gln Arg Thr Lys Lys Thr
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gaagaagtta aagaagaaga agggagccat ggacgagctg gagagggctc tcagctgccc 240

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Trp Ala Glu Lys Ala Val Asp Ser Leu Val Lys Lys Leu Lys Lys Lys
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Lys Gly Ala Met Asp Glu Leu Glu Arg Ala Leu Ser Cys Pro Gly Gln
50 55 60

Pro Ser Lys Cys Val Thr Ile Pro Arg Ser Leu Asp Gly Arg Leu Gln
65 70 75 80

Val Ser His Arg Lys Gly Leu Pro His Val Ile Tyr Cys Arg Val Trp
85 90 95

Arg Trp Pro Asp Leu Gln Ser His His Glu Leu Lys Pro Leu Glu Cys
100 105 110

Cys Glu Phe Pro Phe Gly Ser Lys Gln Lys Glu Val Cys Ile Asn Pro
115 120 125

Tyr His Tyr Arg Arg Val Glu Thr Pro Val Leu Pro Pro Val Leu Val
130 135 140

Pro Arg His Ser Glu Tyr Asn Pro Gln Leu Ser Leu Leu Ala Lys Phe
145 150 155 160

Arg Ser Ala Ser Leu His Ser Glu Pro Leu Met Pro His Asn Ala Thr
165 170 175

Tyr Pro Asp Ser Phe Gln Gln Pro Pro Cys Ser Ala Leu Pro Pro Ser
180 185 190

Pro Ser His Ala Phe Ser Gln Ser Pro Cys Thr Ala Ser Tyr Pro His
195 200 205

Ser Pro Gly Ser Pro Ser Glu Pro Glu Ser Pro Tyr Gln His Ser Val
210 215 220

Asp Thr Pro Pro Leu Pro Tyr His Ala Thr Glu Ala Ser Glu Thr Gln
225 230 235 240

Ser Gly Gln Pro Val Asp Ala Thr Ala Asp Arg His Val Val Leu Ser
245 250 255

Ile Pro Asn Gly Asp Phe Arg Pro Val Cys Tyr Glu Glu Pro Gln His
260 265 270

Trp Cys Ser Val Ala Tyr Tyr Glu Leu Asn Asn Arg Val Gly Glu Thr
275 280 285

Phe Gln Ala Ser Ser Arg Ser Val Leu Ile Asp Gly Phe Thr Asp Pro
290 295 300

Ser Asn Asn Arg Asn Arg Phe Cys Leu Gly Leu Leu Ser Asn Val Asn
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Arg Asn Ser Thr Ile Glu Asn Thr Arg Arg His Ile Gly Lys Gly Val
325 330 335

His Leu Tyr Tyr Val Gly Gly Glu Val Tyr Ala Glu Cys Val Ser Asp
340 345 350

Ser Ser Ile Phe Val Gln Ser Arg Asn Cys Asn Tyr Gln His Gly Phe
355 360 365

His Pro Ala Thr Val Cys Lys Ile Pro Ser Gly Cys Ser Leu Lys Val
370 375 380

Phe Asn Asn Gln Leu Phe Ala Gln Leu Leu Ala Gln Ser Val His His
385 390 395 400

Gly Phe Glu Val Val Tyr Glu Leu Thr Lys Met Cys Thr Ile Arg Met
405 410 415

Ser Phe Val Lys Gly Trp Gly Ala Glu Tyr His Arg Gln Asp Val Thr
420 425 430

Ser Thr Pro Cys Trp Ile Glu Ile His Leu His Gly Pro Leu Gln Trp
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Leu Asp Lys Val Leu Thr Gln Met Gly Ser Pro His Asn Pro Ile Ser
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Ser Val Ser
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Pro Ser Ser Ser Asp Val Gly Val Ser Val Ile Val Lys Asn Val Arg
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Asn Ile Asp Ser Ser Glu Gly Gly Glu Lys Asp Gly His Asn Pro Thr
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Gly Asn Gly Leu His Asn Gly Phe Leu Thr Ala Ser Ser Leu Asp Ser
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Tyr Ser Lys Asp Gly Ala Lys Ser Leu Lys Gly Asp Val Pro Ala Ser
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Glu Val Thr Leu Lys Asp Ser Thr Phe Ser Gln Phe Ser Pro Ile Ser
115 120 125

Ser Ala Glu Glu Phe Asp Asp Asp Glu Lys Ile Glu Val Asp Asp Pro
130 135 140

Pro Asp Lys Glu Asp Met Arg Ser Ser Phe Arg Ser Asn Val Leu Thr
145 150 155 160

Gly Ser Ala Pro Gln Gln Asp Tyr Asp Lys Leu Lys Ala Leu Gly Gly
165 170 175

Glu Asn Ser Ser Lys Thr Gly Leu Ser Thr Ser Gly Asn Val Glu Lys
180 185 190

Asn Lys Ala Val Lys Arg Glu Thr Glu Ala Ser Ser Ile Asn Leu Ser
195 200 205

Val Tyr Glu Pro Phe Lys Val Arg Lys Ala Glu Asp Lys Leu Lys Glu
210 215 220

Ser Ser Asp Lys Val Leu Glu Asn Arg Val Leu Asp Gly Lys Leu Ser
225 230 235 240

Ser Glu Lys Asn Asp Thr Ser Leu Pro Ser Val Ala Pro Ser Lys Thr
245 250 255

Lys Ser Ser Ser Lys Leu Ser Ser Cys Ile Ala Ala Ile Ala Ala Leu
260 265 270

Ser Ala Lys Lys Ala Ala Ser Asp Ser Cys Lys Glu Pro Val Ala Asn
275 280 285

Ser Arg Glu Ser Ser Pro Leu Pro Lys Glu Val Asn Asp Ser Pro Arg
290 295 300

Ala Ala Asp Lys Ser Pro Glu Ser Gln Asn Leu Ile Asp Gly Thr Lys
305 310 315 320

Lys Pro Ser Leu Lys Gln Pro Asp Ser Pro Arg Ser Ile Ser Ser Glu
325 330 335

Asn Ser Ser Lys Gly Ser Pro Ser Ser Pro Ala Gly Ser Thr Pro Ala
340 345 350

Ile Pro Lys Val Arg Ile Lys Thr Ile Lys Thr Ser Ser Gly Glu Ile
355 360 365

Lys Arg Thr Val Thr Arg Val Leu Pro Glu Val Asp Leu Asp Ser Gly
370 375 380

Lys Lys Pro Ser Glu Gln Thr Ala Ser Val Met Ala Ser Val Thr Ser
385 390 395 400

Leu Leu Ser Ser Pro Ala Ser Ala Ala Val Leu Ser Ser Pro Pro Arg
405 410 415

Ala Pro Leu Gln Ser Ala Val Val Thr Asn Ala Val Ser Pro Ala Glu
420 425 430

Leu Thr Pro Lys Gln Val Thr Ile Lys Pro Val Ala Thr Ala Phe Leu
435 440 445

Pro Val Ser Ala Val Lys Thr Ala Gly Ser Gln Val Ile Asn Leu Lys
450 455 460

Leu Ala Asn Asn Thr Thr Val Lys Ala Thr Val Ile Ser Ala Ala Ser
465 470 475 480

Val Gln Ser Ala Ser Ser Ala Ile Ile Lys Ala Ala Asn Ala Ile Gln
485 490 495

Gln Gln Thr Val Val Val Pro Ala Ser Ser Leu Ala Asn Ala Lys Leu
500 505 510

Val Pro Lys Thr Val His Leu Ala Asn Leu Asn Leu Leu Pro Gln Gly
515 520 525

Ala Gln Ala Thr Ser Glu Leu Arg Gln Val Leu Thr Lys Pro Gln Gln
530 535 540

Gln Ile Lys Gln Ala Ile Ile Asn Ala Ala Ala Ser Gln Pro Pro Lys
545 550 555 560

Lys Val Ser Arg Val Gln Val Val Ser Ser Leu Gln Ser Ser Val Val
565 570 575

Glu Ala Phe Asn Lys Val Leu Ser Ser Val Asn Pro Val Pro Val Tyr
580 585 590

Ile Pro Asn Leu Ser Pro Pro Ala Asn Ala Gly Ile Thr Leu Pro Thr
595 600 605

Arg Gly Tyr Lys Cys Leu Glu Cys Gly Asp Ser Phe Ala Leu Glu Lys
610 615 620

Ser Leu Thr Gln His Tyr Asp Arg Arg Ser Val Arg Ile Glu Val Thr
625 630 635 640

Cys Asn His Cys Thr Lys Asn Leu Val Phe Tyr Asn Lys Cys Ser Leu
645 650 655

Leu Ser His Ala Arg Gly His Lys Glu Lys Gly Val Val Met Gln Cys
660 665 670

Ser His Leu Ile Leu Lys Pro Val Pro Ala Asp Gln Met Ile Val Ser
675 680 685

Pro Ser Ser Asn Thr Ser Thr Ser Thr Ser Thr Leu Gln Ser Pro Val
690 695 700

Gly Ala Gly Thr His Thr Val Thr Lys Ile Gln Ser Gly Ile Thr Gly
705 710 715 720

Thr Val Ile Ser Ala Pro Ser Ser Thr Pro Ile Thr Pro Ala Met Pro
725 730 735

Leu Asp Glu Asp Pro Ser Lys Leu Cys Arg His Ser Leu Lys Cys Leu
740 745 750

Glu Cys Asn Glu Val Phe Gln Asp Glu Thr Ser Leu Ala Thr His Phe

755

760

765

Gln Gln Ala Ala Asp Thr Ser Gly Gln Lys Thr Cys Thr Ile Cys Gln
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Met Leu Leu Pro Asn Gln Cys Ser Tyr Ala Ser His Gln Arg Ile His
 785 790 795 800

Gln His Lys Ser Pro Tyr Thr Cys Pro Glu Cys Gly Ala Ile Cys Arg
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Ser Val His Phe Gln Thr His Val Thr Lys Asn Cys Leu His Tyr Thr
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Arg Arg Val Gly Phe Arg Cys Val His Cys Asn Val Val Tyr Ser Asp
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Val Ala Ala Leu Lys Ser His Ile Gln Gly Ser His Cys Glu Val Phe
 850 855 860

Tyr Lys Cys Pro Ile Cys Pro Met Ala Phe Lys Ser Ala Pro Ser Thr
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His Ser His Ala Tyr Thr Gln His Pro Gly Ile Lys Ile Gly Glu Pro
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Lys Ile Ile Tyr Lys Cys Ser Met Cys Asp Thr Val Phe Thr Leu Gln
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Thr Leu Leu Tyr Arg His Phe Asp Gln His Ile Glu Asn Gln Lys Val
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Ser Val Phe Lys Cys Pro Asp Cys Ser Leu Leu Tyr Ala Gln Lys Gln
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Leu Met Met Asp His Ile Lys Ser Met His Gly Thr Leu Lys Ser Ile
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Glu Gly Pro Pro Asn Leu Gly Ile Asn Leu Pro Leu Ser Ile Lys Pro
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Ala Thr Gln Asn Ser Ala Asn Gln Asn Lys Glu Asp Thr Lys Ser Met
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Asn Gly Lys Glu Lys Leu Glu Lys Lys Ser Pro Ser Pro Val Lys Lys
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Ser Met Glu Thr Lys Lys Val Ala Ser Pro Gly Trp Thr Cys Trp
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Glu Cys Asp Cys Leu Phe Met Gln Arg Asp Val Tyr Ile Ser His
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Val Arg Lys Glu His Gly Lys Gln Met Lys Lys His Pro Cys Arg
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Gln Cys Asp Lys Ser Phe Ser Ser Ser His Ser Leu Cys Arg His
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Asn Arg Ile Lys His Lys Gly Ile Arg Lys Val Tyr Ala Cys Ser
 1070 1075 1080

His Cys Pro Asp Ser Arg Arg Thr Phe Thr Lys Arg Leu Met Leu
 1085 1090 1095

Glu Lys His Val Gln Leu Met His Gly Ile Lys Asp Pro Asp Leu
 1100 1105 1110

Lys Glu Met Thr Asp Ala Thr Asn Glu Glu Glu Thr Glu Ile Lys
 1115 1120 1125

Glu Asp Thr Lys Val Pro Ser Pro Lys Arg Lys Leu Glu Glu Pro
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Val Leu Glu Phe Arg Pro Pro Arg Gly Ala Ile Thr Gln Pro Leu
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Lys Lys Leu Lys Ile Asn Val Phe Lys Val His Lys Cys Ala Val
 1160 1165 1170

Cys Gly Phe Thr Thr Glu Asn Leu Leu Gln Phe His Glu His Ile
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Pro Gln His Lys Ser Asp Gly Ser Ser Tyr Gln Cys Arg Glu Cys
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Gly Leu Cys Tyr Thr Ser His Val Ser Leu Ser Arg His Leu Phe
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Ile Val His Lys Leu Lys Glu Pro Gln Pro Val Ser Lys Gln Asn
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Gly Ala Gly Glu Asp Asn Gln Gln Glu Asn Lys Pro Ser His Glu
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Asp Glu Ser Pro Asp Gly Ala Val Ser Asp Arg Lys Cys Lys Val
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Cys Ala Lys Thr Phe Glu Thr Glu Ala Ala Leu Asn Thr His Met
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Arg Thr His Gly Met Ala Phe Ile Lys Ser Lys Arg Met Ser Ser
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Ala Glu Lys
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Pro Ser Trp Ala Ser Ile Thr Tyr Gly Val Phe Leu Cys Ile Asp Cys
 35 40 45

Ser Gly Ser His Arg Ser Leu Gly Val His Leu Ser Phe Ile Arg Ser
 50 55 60

Thr Glu Leu Asp Ser Asn Trp Ser Trp Phe Gln Leu Arg Cys Met Gln
 65 70 75 80

Val Gly Gly Asn Ala Ser Ala Ser Ser Phe Phe His Gln His Gly Cys
 85 90 95

Ser Thr Asn Asp Thr Asn Ala Lys Tyr Asn Ser Arg Ala Ala Gln Leu
 100 105 110

Tyr Arg Glu Lys Ile Lys Ser Leu Ala Ser Gln Ala Thr Arg Lys His
 115 120 125

Gly Thr Asp Leu Trp Leu Asp Ser Cys Val Val Pro Pro Leu Ser Pro
 130 135 140

Pro Pro Lys Glu Glu Asp Phe Phe Ala Ser His Val Ser Pro Glu Val
145 150 155 160

Ser Asp Thr Ala Trp Ala Ser Ala Ile Ala Glu Pro Ser Ser Leu Thr
165 170 175

Ser Arg Pro Val Glu Thr Thr Leu Glu Asn Asn Glu Gly Gly Gln Glu
180 185 190

Gln Gly Pro Ser Val Glu Gly Leu Asn Val Pro Thr Lys Ala Thr Leu
195 200 205

Glu Val Ser Ser Ile Ile Lys Lys Lys Pro Asn Gln Ala Lys Lys Gly
210 215 220

Leu Gly Ala Lys Lys Gly Ser Leu Gly Ala Gln Lys Leu Ala Asn Thr
225 230 235 240

Cys Phe Asn Glu Ile Glu Lys Gln Ala Gln Ala Ala Asp Lys Met Lys
245 250 255

Glu Gln Glu Asp Leu Ala Lys Val Val Ser Lys Glu Glu Ser Ile Val
260 265 270

Ser Ser Leu Arg Leu Ala Tyr Lys Asp Leu Glu Ile Gln Met Lys Lys
275 280 285

Asp Glu Lys Met Asn Ile Ser Gly Lys Lys Asn Val Asp Ser Asp Arg
290 295 300

Leu Gly Met Gly Phe Gly Asn Cys Arg Ser Val Ile Ser His Ser Val
305 310 315 320

Thr Ser Asp Met Gln Thr Ile Glu Gln Glu Ser Pro Ile Met Ala Lys
325 330 335

Pro Arg Lys Lys Tyr Asn Asp Asp Ser Asp Asp Ser Tyr Phe Thr Ser
340 345 350

Ser Ser Ser Tyr Phe Asp Glu Pro Val Glu Leu Arg Ser Ser Ser Phe
355 360 365

Ser Ser Trp Asp Asp Ser Ser Asp Ser Tyr Trp Lys Lys Glu Thr Ser
 370 375 380

Lys Asp Thr Glu Thr Val Leu Lys Thr Thr Gly Tyr Ser Asp Arg Pro
 385 390 395 400

Thr Ala Arg Arg Lys Pro Asp Tyr Glu Pro Val Glu Asn Thr Asp Glu
 405 410 415

Ala Gln Lys Lys Phe Gly Asn Val Lys Ala Ile Ser Ser Asp Met Tyr
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Phe Gly Arg Gln Ser Gln Ala Asp Tyr Glu Thr Arg Ala Arg Leu Glu
 435 440 445

Arg Leu Ser Ala Ser Ser Ser Ile Ser Ser Ala Asp Leu Phe Glu Glu
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Pro Arg Lys Gln Pro Ala Gly Asn Tyr Ser Leu Ser Ser Val Leu Pro
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Asn Ala Pro Asp Met Ala Gln Phe Lys Gln Gly Val Arg Ser Val Ala
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Arg Tyr Gly Ser
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<400> 259

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 35 40 45

Asn Asn Lys Glu Cys Cys Phe Thr Phe Thr Leu Asn Gly Asn Ser Arg
 50 55 60

Lys Leu Asp Arg Ser Val Phe Thr Ala Tyr Gly Lys Pro Ser Glu Ser
 65 70 75 80

Ile Tyr Ser Ala Leu Ser Ala Asn Asp Tyr Phe Ser Glu Arg Ile Lys
 85 90 95

Asn Gln Phe Asn Lys Asn Ile Ile Val Tyr Glu Glu Lys Thr Ile Asp
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Gly His Ile Asn Leu Gly Met Pro Leu Lys Cys Leu Pro Ser Asp Ser
 115 120 125

His Phe Lys Ile Thr Phe Gly Gln Arg Lys Ser Ser Lys Glu Asp Gly
 130 135 140

His Ile Leu Arg Gln Cys Glu Asn Pro Asn Met Glu Cys Ile Leu Phe
 145 150 155 160

His Val Val Ala Ile Gly Arg Thr Arg Lys Lys Ile Val Lys Ile Asn
 165 170 175

Glu Leu His Glu Lys Gly Ser Lys Leu Cys Ile Tyr Ala Leu Lys Gly
180 185 190

Glu Thr Ile Glu Gly Ala Leu Cys Lys Asp Gly Arg Phe Arg Ser Asp
195 200 205

Ile Gly Glu Phe Glu Trp Lys Leu Lys Glu Gly His Lys Lys Ile Tyr
210 215 220

Gly Lys Gln Ser Met Val Asp Glu Val Ser Gly Lys Val Leu Glu Met
225 230 235 240

Asp Ile Ser Lys Lys Lys Ala Leu Gln Gln Lys Asp Ile His Lys Lys
245 250 255

Ile Lys Gln Asn Glu Ser Ala Thr Asp Glu Ile Asn His Gln Ser Leu
260 265 270

Ile Gln Ser Lys Lys Lys Val His Lys Pro Lys Lys Asp Gly Glu Thr
275 280 285

Lys Asp Val Glu His Ser Arg Glu Gln Ile Leu Pro Pro Gln Asp Leu
290 295 300

Ser His Tyr Ile Lys Asp Lys Thr Arg Gln Thr Ile Pro Arg Ile Arg
305 310 315 320

Asn Tyr Tyr Phe Cys Ser Leu Pro Arg Lys Tyr Arg Gln Ile Asn Ser
325 330 335

Gln Val Arg Arg Arg Pro His Leu Gly Arg Arg Tyr Ala Ile Asn Leu
340 345 350

Asp Val Gln Lys Glu Ala Ile Asn Leu Leu Lys Asn Tyr Gln Thr Leu
355 360 365

Asn Glu Ala Ile Met His Gln Tyr Pro Asn Phe Lys Glu Glu Ala Gln
370 375 380

Trp Val Arg Lys Tyr Phe Arg Glu Glu Gln Lys Arg Met Asn Leu Ser
385 390 395 400

Pro Ala Lys Gln Phe Asn Ile Tyr Lys Lys Asp Phe Gly Lys Met Thr

405

410

415

Ala Asn Ser Val Ser Val Ala Thr Cys Glu Gln Leu Thr Tyr Tyr Ser
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Lys Ser Val Gly Phe Met Gln Trp Asp Asn Asn Gly Asn Thr Gly Asn
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Ala Thr Cys Phe Val Phe Asn Gly Gly Tyr Ile Phe Thr Cys Arg His
 450 455 460

Val Val His Leu Met Val Gly Lys Asn Thr His Pro Ser Leu Trp Pro
 465 470 475 480

Asp Ile Ile Ser Lys Cys Ala Lys Val Thr Phe Thr Tyr Thr Glu Phe
 485 490 495

Cys Pro Thr Pro Asp Asn Trp Phe Ser Ile Glu Pro Trp Leu Lys Val
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Ser Asn Glu Asn Leu Asp Tyr Ala Ile Leu Lys Leu Lys Glu Asn Gly
 515 520 525

Asn Ala Phe Pro Pro Gly Leu Trp Arg Gln Ile Ser Pro Gln Pro Ser
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Thr Gly Leu Ile Tyr Leu Ile Gly His Pro Glu Gly Gln Ile Lys Lys
 545 550 555 560

Ile Asp Gly Cys Thr Val Ile Pro Leu Asn Glu Arg Leu Lys Lys Tyr
 565 570 575

Pro Asn Asp Cys Gln Asp Gly Leu Val Asp Leu Tyr Asp Thr Thr Ser
 580 585 590

Asn Val Tyr Cys Met Phe Thr Gln Arg Ser Phe Leu Ser Glu Val Trp
 595 600 605

Asn Thr His Thr Leu Ser Tyr Asp Thr Cys Phe Ser Asp Gly Ser Ser
 610 615 620

Gly Ser Pro Val Phe Asn Ala Ser Gly Lys Leu Val Ala Leu His Thr
 625 630 635 640

Phe Gly Leu Phe Tyr Gln Arg Gly Phe Asn Val His Ala Leu Ile Glu
645 650 655

Phe Gly Tyr Ser Met Asp Ser Ile Leu Cys Asp Ile Lys Lys Thr Asn
660 665 670

Glu Ser Leu Tyr Lys Ser Leu Asn Asp Glu Lys Leu Glu Thr Tyr Asp
675 680 685

Glu Glu Lys Ala Arg Pro Arg Pro Ala Tyr Arg Arg Leu Gly Cys Phe
690 695 700

Arg Phe Arg Ser Arg Phe Pro Ile Leu Gly Thr Gly Glu Thr Gly Arg
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Ile Glu Ala Gly Lys Asp Arg Arg Gly His Gly Val Ser Glu Thr Gly
725 730 735

Ser Cys Ser Arg Arg Gln Gly Gly Ala Leu Trp Val Ser Pro Ala Gln
740 745 750

Pro Ile Gly Phe Arg Ser Ser Trp Ser Ser Gly Ala Phe Ala Ser Ser
755 760 765

Asn Thr Ser Gly Asn Cys Val Glu Arg Trp Ile Pro Gly Arg Val Leu
770 775 780

Ala Arg Arg Ala Val Ser Lys Glu Gln Gln Asn Asn Cys Ser Thr Ser
785 790 795 800

Leu Met Arg Met Glu Ser Arg Gly Asp Pro Arg Ala Thr Thr Asn Thr
805 810 815

Gln Ala Gln Arg Phe His Ser Pro Lys Lys Asn Pro Glu Asp Gln Thr
820 825 830

Met Pro Gln Asn Arg Thr Ile Tyr Val Thr Leu Lys Ala Val Arg Lys
835 840 845

Glu Ile Glu Thr His Gln Gly Gln Glu Met Leu Val Arg Gly Thr Glu
850 855 860

Gly Ile Lys Glu Tyr Ile Asn Leu Gly Met Pro Leu Ser Cys Phe Pro
865 870 875 880

Glu Gly Gly Gln Val Val Ile Thr Phe Ser Gln Ser Lys Ser Lys Gln
885 890 895

Lys Glu Asp Asn His Ile Phe Gly Arg Gln Asp Lys Ala Ser Thr Glu
900 905 910

Cys Val Lys Phe Tyr Ile His Ala Ile Gly Ile Gly Lys Cys Lys Arg
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Arg Ile Val Lys Cys Gly Lys Leu His Lys Lys Gly Arg Lys Leu Cys
930 935 940

Val Tyr Ala Phe Lys Gly Glu Thr Ile Lys Asp Ala Leu Cys Lys Asp
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Gly Arg Phe Leu Ser Phe Leu Glu Asn Asp Asp Trp Lys Leu Ile Glu
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Asn Asn Asp Thr Ile Leu Glu Ser Thr Gln Pro Val Asp Glu Leu Glu
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Gly Arg Tyr Phe Gln Val Glu Val Glu Lys Arg Met Val Pro Ser Ala
995 1000 1005

Ala Ala Ser Gln Asn Pro Glu Ser Glu Lys Arg Asn Thr Cys Val
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Leu Arg Glu Gln Ile Val Ala Gln Tyr Pro Ser Leu Lys Arg Glu
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Ser Glu Lys Ile Ile Glu Asn Phe Lys Lys Lys Met Lys Val Lys
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Asn Gly Glu Thr Leu Phe Glu Leu His Arg Thr Thr Phe Gly Lys
1055 1060 1065

Val Thr Lys Asn Ser Ser Ser Ile Lys Val Val Lys Leu Leu Val
1070 1075 1080

Arg Leu Ser Asp Ser Val Gly Tyr Leu Phe Trp Asp Ser Ala Thr
1085 1090 1095

Thr Gly Tyr Ala Thr Cys Phe Val Phe Lys Gly Leu Phe Ile Leu
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Thr Cys Arg His Val Ile Asp Ser Ile Val Gly Asp Gly Ile Glu
1115 1120 1125

Pro Ser Lys Trp Ala Thr Ile Ile Gly Gln Cys Val Arg Val Thr
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Phe Gly Tyr Glu Glu Leu Lys Asp Lys Glu Thr Asn Tyr Phe Phe
1145 1150 1155

Val Glu Pro Trp Phe Glu Ile His Asn Glu Glu Leu Asp Tyr Ala
1160 1165 1170

Val Leu Lys Leu Lys Glu Asn Gly Gln Gln Val Pro Met Glu Leu
1175 1180 1185

Tyr Asn Gly Ile Thr Pro Val Pro Leu Ser Gly Leu Ile His Ile
1190 1195 1200

Ile Gly His Pro Tyr Gly Glu Lys Lys Gln Ile Asp Ala Cys Ala
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Val Ile Pro Gln Gly Gln Arg Ala Lys Lys Cys Gln Glu Arg Val
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Gln Ser Lys Lys Ala Glu Ser Pro Glu Tyr Val His Met Tyr Thr
1235 1240 1245

Gln Arg Ser Phe Gln Lys Ile Val His Asn Pro Asp Val Ile Thr
1250 1255 1260

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Asp Ser Lys Gly Ser Leu Val Ala Met His Ala Ala Gly Phe Ala
1280 1285 1290

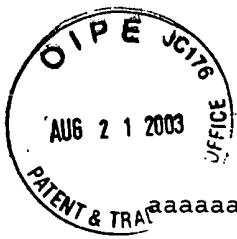
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Trp Tyr Glu Glu Val Phe Val Asn Gln Gln Asp Val Glu Met Met				
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2829

<210> 261
<211> 668
<212> PRT
<213> human organism

<400> 261

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Val Leu Glu Thr Leu Asn Glu Gln Arg Asn Arg Gly His Phe Cys Asp
20 25 30

Val Thr Val Arg Ile His Gly Ser Met Leu Arg Ala His Arg Cys Val
35 40 45

Leu Ala Ala Gly Ser Pro Phe Phe Gln Asp Lys Leu Leu Leu Gly Tyr
50 55 60

Ser Asp Ile Glu Ile Pro Ser Val Val Ser Val Gln Ser Val Gln Lys
65 70 75 80

Leu Ile Asp Phe Met Tyr Ser Gly Val Leu Arg Val Ser Gln Ser Glu
85 90 95

Ala Leu Gln Ile Leu Thr Ala Ala Ser Ile Leu Gln Ile Lys Thr Val
100 105 110

Ile Asp Glu Cys Thr Arg Ile Val Ser Gln Asn Val Gly Asp Val Phe
115 120 125

Pro Gly Ile Gln Asp Ser Gly Gln Asp Thr Pro Arg Gly Thr Pro Glu
130 135 140

Ser Gly Thr Ser Gly Gln Ser Ser Asp Thr Glu Ser Gly Tyr Leu Gln
145 150 155 160

Ser His Pro Gln His Ser Val Asp Arg Ile Tyr Ser Ala Leu Tyr Ala
165 170 175

Cys Ser Met Gln Asn Gly Ser Gly Glu Arg Ser Phe Tyr Ser Gly Ala
180 185 190

Val Val Ser His His Glu Thr Ala Leu Gly Leu Pro Arg Asp His His
195 200 205

Met Glu Asp Pro Ser Trp Ile Thr Arg Ile His Glu Arg Ser Gln Gln
210 215 220

Met Glu Arg Tyr Leu Ser Thr Thr Pro Glu Thr Thr His Cys Arg Lys
225 230 235 240

Gln Pro Arg Pro Val Arg Ile Gln Thr Leu Val Gly Asn Ile His Ile
245 250 255

Lys Gln Glu Met Glu Asp Asp Tyr Asp Tyr Tyr Gly Gln Gln Arg Val
260 265 270

Gln Ile Leu Glu Arg Asn Glu Ser Glu Glu Cys Thr Glu Asp Thr Asp
275 280 285

Gln Ala Glu Gly Thr Glu Ser Glu Pro Lys Gly Glu Ser Phe Asp Ser
290 295 300

Gly Val Ser Ser Ser Ile Gly Thr Glu Pro Asp Ser Val Glu Gln Gln
305 310 315 320

Phe Gly Pro Gly Ala Ala Arg Asp Ser Gln Ala Glu Pro Thr Gln Pro
325 330 335

Glu Gln Ala Ala Glu Ala Pro Ala Glu Gly Gly Pro Gln Thr Asn Gln
340 345 350

Leu Glu Thr Gly Ala Ser Ser Pro Glu Arg Ser Asn Glu Val Glu Met
355 360 365

Asp Ser Thr Val Ile Thr Val Ser Asn Ser Ser Asp Lys Ser Val Leu
370 375 380

Gln Gln Pro Ser Val Asn Thr Ser Ile Gly Gln Pro Leu Pro Ser Thr
385 390 395 400

Gln Leu Tyr Leu Arg Gln Thr Glu Thr Leu Thr Ser Asn Leu Arg Met
405 410 415

Pro Leu Thr Leu Thr Ser Asn Thr Gln Val Ile Gly Thr Ala Gly Asn
420 425 430

Thr Tyr Leu Pro Ala Leu Phe Thr Thr Gln Pro Ala Gly Ser Gly Pro
435 440 445

Lys Pro Phe Leu Phe Ser Leu Pro Gln Pro Leu Ala Gly Gln Gln Thr
450 455 460

Gln Phe Val Thr Val Ser Gln Pro Gly Leu Ser Thr Phe Thr Ala Gln
465 470 475 480

Leu Pro Ala Pro Gln Pro Leu Ala Ser Ser Ala Gly His Ser Thr Ala
485 490 495

Ser Gly Gln Gly Glu Lys Lys Pro Tyr Glu Cys Thr Leu Cys Asn Lys
500 505 510

Thr Phe Thr Ala Lys Gln Asn Tyr Val Lys His Met Phe Val His Thr
515 520 525

Gly Glu Lys Pro His Gln Cys Ser Ile Cys Trp Arg Ser Phe Ser Leu
530 535 540

Lys Asp Tyr Leu Ile Lys His Met Val Thr His Thr Gly Val Arg Ala
545 550 555 560

Tyr Gln Cys Ser Ile Cys Asn Lys Arg Phe Thr Gln Lys Ser Ser Leu
565 570 575

Asn Val His Met Arg Leu His Arg Gly Glu Lys Ser Tyr Glu Cys Tyr
580 585 590

Ile Cys Lys Lys Lys Phe Ser His Lys Thr Leu Leu Glu Arg His Val
595 600 605

Ala Leu His Ser Ala Ser Asn Gly Thr Pro Pro Ala Gly Thr Pro Pro
610 615 620

Gly Ala Arg Ala Gly Pro Pro Gly Val Val Ala Cys Thr Glu Gly Thr
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Thr Tyr Val Cys Ser Val Cys Pro Ala Lys Phe Asp Gln Ile Glu Gln
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Phe Asn Asp His Met Arg Met His Val Ser Asp Gly
660 665

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<211> 219
<212> PRT
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<400> 263

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Lys Thr Asp Thr Val Val Glu Ser Ser Val Ser Gly Asp His Ser Gly
35 40 45

Thr Leu Arg Arg Ser Gln Ser Asp Arg Thr Glu Tyr Asn Gln Lys Leu
50 55 60

Gln Glu Lys Met Thr Pro Gln Gly Glu Cys Ser Val Ala Glu Thr Leu
65 70 75 80

Thr Pro Glu Glu Glu His His Met Lys Arg Met Met Ala Lys Arg Glu
85 90 95

Lys Ile Ile Lys Glu Leu Ile Gln Thr Glu Lys Asp Tyr Leu Asn Asp
100 105 110

Leu Glu Leu Cys Val Arg Glu Val Val Gln Pro Leu Arg Asn Lys Lys
115 120 125

Thr Asp Arg Leu Asp Val Asp Ser Leu Phe Ser Asn Ile Glu Ser Val
130 135 140

His Gln Ile Ser Ala Lys Leu Leu Ser Leu Leu Glu Glu Ala Thr Thr
145 150 155 160

Asp Val Glu Pro Ala Met Gln Val Ile Gly Glu Val Phe Leu Gln Ile
165 170 175

Lys Gly Pro Leu Glu Asp Ile Tyr Lys Ile Tyr Cys Tyr His His Asp
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Glu Ala His Ser Ile Leu Glu Ser Tyr Glu Lys Glu Glu Glu Leu Lys
195 200 205

Glu His Leu Ser His Cys Ile Gln Ser Leu Lys
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<210> 264

<211> 3812

<212> DNA

<213> human organism

<400> 264

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<210> 265
<211> 641
<212> PRT
<213> human organism

<400> 265

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Tyr Gln Val Ser Arg His Ser Thr Glu Met Leu His Asn Leu Asn Gln
          20             25             30

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Gln Arg Lys Asn Gly Gly Arg Phe Cys Asp Val Leu Leu Arg Val Gly
          35             40             45

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Asp Glu Ser Phe Pro Ala His Arg Ala Val Leu Ala Ala Cys Ser Glu
          50             55             60

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Tyr Phe Glu Ser Val Phe Ser Ala Gln Leu Gly Asp Gly Gly Ala Ala
65             70             75             80

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Asp Gly Gly Pro Ala Asp Val Gly Gly Ala Thr Ala Ala Pro Gly Gly
          85             90             95

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Gly Ala Gly Gly Ser Arg Glu Leu Glu Met His Thr Ile Ser Ser Lys
          100             105             110

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Val Phe Gly Asp Ile Leu Asp Phe Ala Tyr Thr Ser Arg Ile Val Val
          115             120             125

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Arg Leu Glu Ser Phe Pro Glu Leu Met Thr Ala Ala Lys Phe Leu Leu

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Val Gln Ile Leu Val Pro Pro Ala Arg Ala Asp Ile Met Leu Phe Arg		
	165	170 175
Pro Pro Gly Thr Ser Asp Leu Gly Phe Pro Leu Asp Met Thr Asn Gly		
	180	185 190
Ala Ala Leu Ala Ala Asn Ser Asn Gly Ile Ala Gly Ser Met Gln Pro		
	195	200 205
Glu Glu Glu Ala Ala Arg Ala Ala Gly Ala Ala Ile Ala Gly Gln Ala		
	210	215 220
Ser Leu Pro Val Leu Pro Gly Val Asp Arg Leu Pro Met Val Ala Gly		
225	230	235 240
Pro Leu Ser Pro Gln Leu Leu Thr Ser Pro Phe Pro Ser Val Ala Ser		
	245	250 255
Ser Ala Pro Pro Leu Thr Gly Lys Arg Gly Arg Gly Arg Pro Arg Lys		
	260	265 270
Ala Asn Leu Leu Asp Ser Met Phe Gly Ser Pro Gly Gly Leu Arg Glu		
	275	280 285
Ala Gly Ile Leu Pro Cys Gly Leu Cys Gly Lys Val Phe Thr Asp Ala		
	290	295 300
Asn Arg Leu Arg Gln His Glu Ala Gln His Gly Val Thr Ser Leu Gln		
305	310	315 320
Leu Gly Tyr Ile Asp Leu Pro Pro Pro Arg Leu Gly Glu Asn Gly Leu		
	325	330 335
Pro Ile Ser Glu Asp Pro Asp Gly Pro Arg Lys Arg Ser Arg Thr Arg		
	340	345 350
Lys Gln Val Ala Cys Glu Ile Cys Gly Lys Ile Phe Arg Asp Val Tyr		
	355	360 365

His Leu Asn Arg His Lys Leu Ser His Ser Gly Glu Lys Pro Tyr Ser
370 375 380

Cys Pro Val Cys Gly Leu Arg Phe Lys Arg Lys Asp Arg Met Ser Tyr
385 390 395 400

His Val Arg Ser His Asp Gly Ser Val Gly Lys Pro Tyr Ile Cys Gln
405 410 415

Ser Cys Gly Lys Gly Phe Ser Arg Pro Asp His Leu Asn Gly His Ile
420 425 430

Lys Gln Val His Thr Ser Glu Arg Pro His Lys Cys Gln Thr Cys Asn
435 440 445

Ala Ser Phe Ala Thr Arg Asp Arg Leu Arg Ser His Leu Ala Cys His
450 455 460

Glu Asp Lys Val Pro Cys Gln Val Cys Gly Lys Tyr Leu Arg Ala Ala
465 470 475 480

Tyr Met Ala Asp His Leu Lys Lys His Ser Glu Gly Pro Ser Asn Phe
485 490 495

Cys Ser Ile Cys Asn Arg Glu Gly Gln Lys Cys Ser His Gln Asp Pro
500 505 510

Ile Glu Ser Ser Asp Ser Tyr Gly Asp Leu Ser Asp Ala Ser Asp Leu
515 520 525

Lys Thr Pro Glu Lys Gln Ser Ala Asn Gly Ser Phe Ser Cys Asp Met
530 535 540

Ala Val Pro Lys Asn Lys Met Glu Ser Asp Gly Glu Lys Lys Tyr Pro
545 550 555 560

Cys Pro Glu Cys Gly Ser Phe Phe Arg Ser Lys Ser Tyr Leu Asn Lys
565 570 575

His Ile Gln Lys Val His Val Arg Ala Leu Gly Gly Pro Leu Gly Asp
580 585 590

Leu Gly Pro Ala Leu Gly Ser Pro Phe Ser Pro Gln Gln Asn Met Ser
595 600 605

Leu Leu Glu Ser Phe Gly Phe Gln Ile Val Gln Ser Ala Phe Ala Ser
610 615 620

Ser Leu Val Asp Pro Glu Val Asp Gln Gln Pro Met Gly Pro Glu Gly
625 630 635 640

Lys

<210> 266
<211> 2818
<212> DNA
<213> human organism

<400> 266
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gcagagtcgg cgatctgagc cccaggcaga aggaggcatt ggccaagttt cgggagaatg 240
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2818

<210> 267

<211> 403

<212> PRT

<213> human organism

<400> 267

Met Ser Gly Arg Val Gly Asp Leu Ser Pro Arg Gln Lys Glu Ala Leu
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Ala Lys Phe Arg Glu Asn Val Gln Asp Val Leu Pro Ala Leu Pro Asn
20 25 30

Pro Asp Asp Tyr Phe Leu Leu Arg Trp Leu Arg Ala Arg Ser Phe Asp
35 40 45

Leu Gln Lys Ser Glu Ala Met Leu Arg Lys His Val Glu Phe Arg Lys
50 55 60

Gln Lys Asp Ile Asp Asn Ile Ile Ser Trp Gln Pro Pro Glu Val Ile
65 70 75 80

Gln Gln Tyr Leu Ser Gly Gly Met Cys Gly Tyr Asp Leu Asp Gly Cys
85 90 95

Pro Val Trp Tyr Asp Ile Ile Gly Pro Leu Asp Ala Lys Gly Leu Leu
100 105 110

Phe Ser Ala Ser Lys Gln Asp Leu Leu Arg Thr Lys Met Arg Glu Cys
115 120 125

Glu Leu Leu Leu Gln Glu Cys Ala His Gln Thr Thr Lys Leu Gly Arg
130 135 140

Lys Val Glu Thr Ile Thr Ile Ile Tyr Asp Cys Glu Gly Leu Gly Leu
145 150 155 160

Lys His Leu Trp Lys Pro Ala Val Glu Ala Tyr Gly Glu Phe Leu Cys
165 170 175

Met Phe Glu Glu Asn Tyr Pro Glu Thr Leu Lys Arg Leu Phe Val Val
180 185 190

Lys Ala Pro Lys Leu Phe Pro Val Ala Tyr Asn Leu Ile Lys Pro Phe
195 200 205

Leu Ser Glu Asp Thr Arg Lys Lys Ile Met Val Leu Gly Ala Asn Trp
210 215 220

Lys Glu Val Leu Leu Lys His Ile Ser Pro Asp Gln Val Pro Val Glu
225 230 235 240

Tyr Gly Gly Thr Met Thr Asp Pro Asp Gly Asn Pro Lys Cys Lys Ser
245 250 255

Lys Ile Asn Tyr Gly Gly Asp Ile Pro Arg Lys Tyr Tyr Val Arg Asp
260 265 270

Gln Val Lys Gln Gln Tyr Glu His Ser Val Gln Ile Ser Arg Gly Ser
275 280 285

Ser His Gln Val Glu Tyr Glu Ile Leu Phe Pro Gly Cys Val Leu Arg
290 295 300

Trp Gln Phe Met Ser Asp Gly Ala Asp Val Gly Phe Gly Ile Phe Leu
305 310 315 320

Lys Thr Lys Met Gly Glu Arg Gln Arg Ala Gly Glu Met Thr Glu Val
325 330 335

Leu Pro Asn Gln Arg Tyr Asn Ser His Leu Val Pro Glu Asp Gly Thr
340 345 350

Leu Thr Cys Ser Asp Pro Gly Ile Tyr Val Leu Arg Phe Asp Asn Thr
355 360 365

Tyr Ser Phe Ile His Ala Lys Lys Val Asn Phe Thr Val Glu Val Leu
370 375 380

Leu Pro Asp Lys Ala Ser Glu Glu Lys Met Lys Gln Leu Gly Ala Gly
385 390 395 400

Thr Pro Lys

<210> 268
<211> 1464
<212> DNA
<213> human organism

<400> 268
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tatatccgag accgcttctg tccatttagg cttatcccag gtggagctca cgggcaacag 180
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<210> 269
<211> 667
<212> PRT
<213> human organism

<400> 269

Met Lys Glu Lys Ser Lys Asn Ala Ala Lys Thr Arg Arg Glu Lys Glu
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Asn Gly Glu Phe Tyr Glu Leu Ala Lys Leu Leu Pro Leu Pro Ser Ala
20 25 30

Ile Thr Ser Gln Leu Asp Lys Ala Ser Ile Ile Arg Leu Thr Thr Ser
35 40 45

Tyr Leu Lys Met Arg Ala Val Phe Pro Glu Gly Leu Gly Asp Ala Trp
50 55 60

Gly Gln Pro Ser Arg Ala Gly Pro Leu Asp Gly Val Ala Lys Glu Leu
65 70 75 80

Gly Ser His Leu Leu Gln Thr Leu Asp Gly Phe Val Phe Val Val Ala
85 90 95

Ser Asp Gly Lys Ile Met Tyr Ile Ser Glu Thr Ala Ser Val His Leu
100 105 110

Gly Leu Ser Gln Val Glu Leu Thr Gly Asn Ser Ile Tyr Glu Tyr Ile
115 120 125

His Pro Ser Asp His Asp Glu Met Thr Ala Val Leu Thr Ala His Gln
130 135 140

Pro Leu His His His Leu Leu Gln Glu Tyr Glu Ile Glu Arg Ser Phe
145 150 155 160

Phe Leu Arg Met Lys Cys Val Leu Ala Lys Arg Asn Ala Gly Leu Thr
165 170 175

Cys Ser Gly Tyr Lys Val Ile His Cys Ser Gly Tyr Leu Lys Ile Arg
180 185 190

Gln Tyr Met Leu Asp Met Ser Leu Tyr Asp Ser Cys Tyr Gln Ile Val

195	200	205
Gly Leu Val Ala Val Gly Gln Ser Leu Pro Pro Ser Ala Ile Thr Glu		
210	215	220
Ile Lys Leu Tyr Ser Asn Met Phe Met Phe Arg Ala Ser Leu Asp Leu		
225	230	235 240
Lys Leu Ile Phe Leu Asp Ser Arg Val Thr Glu Val Thr Gly Tyr Glu		
	245	250 255
Pro Gln Asp Leu Ile Glu Lys Thr Leu Tyr His His Val His Gly Cys		
	260	265 270
Asp Val Phe His Leu Arg Tyr Ala His His Leu Leu Leu Val Lys Gly		
	275	280 285
Gln Val Thr Thr Lys Tyr Tyr Arg Leu Leu Ser Lys Arg Gly Gly Trp		
	290	295 300
Val Trp Val Gln Ser Tyr Ala Thr Val Val His Asn Ser Arg Ser Ser		
305	310	315 320
Arg Pro His Cys Ile Val Ser Val Asn Tyr Val Leu Thr Glu Ile Glu		
	325	330 335
Tyr Lys Glu Leu Gln Leu Ser Leu Glu Gln Val Ser Thr Ala Lys Ser		
	340	345 350
Gln Asp Ser Trp Arg Thr Ala Leu Ser Thr Ser Gln Glu Thr Arg Lys		
	355	360 365
Leu Val Lys Pro Lys Asn Thr Lys Met Lys Thr Lys Leu Arg Thr Asn		
	370	375 380
Pro Tyr Pro Pro Gln Gln Tyr Ser Ser Phe Gln Met Asp Lys Leu Glu		
385	390	395 400
Cys Gly Gln Leu Gly Asn Trp Arg Ala Ser Pro Pro Ala Ser Ala Ala		
	405	410 415
Ala Pro Pro Glu Leu Gln Pro His Ser Glu Ser Ser Asp Leu Leu Tyr		
	420	425 430

Thr Pro Ser Tyr Ser Leu Pro Phe Ser Tyr His Tyr Gly His Phe Pro
435 440 445

Leu Asp Ser His Val Phe Ser Ser Lys Lys Pro Met Leu Pro Ala Lys
450 455 460

Phe Gly Gln Pro Gln Gly Ser Pro Cys Glu Val Ala Arg Phe Phe Leu
465 470 475 480

Ser Thr Leu Pro Ala Ser Gly Glu Cys Gln Trp His Tyr Ala Asn Pro
485 490 495

Leu Val Pro Ser Ser Ser Ser Pro Ala Lys Asn Pro Pro Glu Pro Pro
500 505 510

Ala Asn Thr Ala Arg His Ser Leu Val Pro Ser Tyr Glu Ala Pro Ala
515 520 525

Ala Ala Val Arg Arg Phe Gly Glu Asp Thr Ala Pro Pro Ser Phe Pro
530 535 540

Ser Cys Gly His Tyr Arg Glu Glu Pro Ala Leu Gly Pro Ala Lys Ala
545 550 555 560

Ala Arg Gln Ala Ala Arg Asp Gly Ala Arg Leu Ala Leu Ala Arg Ala
565 570 575

Ala Pro Glu Cys Cys Ala Pro Pro Thr Pro Glu Ala Pro Gly Ala Pro
580 585 590

Ala Gln Leu Pro Phe Val Leu Leu Asn Tyr His Arg Val Leu Ala Arg
595 600 605

Arg Gly Pro Leu Gly Gly Ala Ala Pro Ala Ala Ser Gly Leu Ala Cys
610 615 620

Ala Pro Gly Gly Pro Glu Ala Ala Thr Gly Ala Leu Arg Leu Arg His
625 630 635 640

Pro Ser Pro Ala Ala Thr Ser Pro Pro Gly Ala Pro Leu Pro His Tyr
645 650 655

Leu Gly Ala Ser Val Ile Ile Thr Asn Gly Arg
660 665

<210> 270
<211> 1192
<212> DNA
<213> human organism

<220>
<221> misc_feature
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<223> n is a, c, g, or t

<400> 270
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<210> 271
 <211> 1365
 <212> DNA
 <213> human organism

<400> 271
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 aggataaacc agtaccaga atccaatgct gaatatattgg cttcattatt ccagattct 420
 ttgattgtca aaggatttaa tgttgtctca gcttggggcac ttcagttagg acctaaggat 480
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<210> 272
 <211> 454
 <212> PRT

<213> human organism

<400> 272

Met Glu Ser Ile Ser Met Met Gly Ser Pro Lys Ser Leu Ser Glu Thr
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Cys Leu Pro Asn Gly Ile Asn Gly Ile Lys Asp Ala Arg Lys Val Thr
20 25 30

Val Gly Val Ile Gly Ser Gly Asp Phe Ala Lys Ser Leu Thr Ile Arg
35 40 45

Leu Ile Arg Cys Gly Tyr His Val Val Ile Gly Ser Arg Asn Pro Lys
50 55 60

Phe Ala Ser Glu Phe Phe Pro His Val Val Asp Val Thr His His Glu
65 70 75 80

Asp Ala Leu Thr Lys Thr Asn Ile Ile Phe Val Ala Ile His Arg Glu
85 90 95

His Tyr Thr Ser Leu Trp Asp Leu Arg His Leu Leu Val Gly Lys Ile
100 105 110

Leu Ile Asp Val Ser Asn Asn Met Arg Ile Asn Gln Tyr Pro Glu Ser
115 120 125

Asn Ala Glu Tyr Leu Ala Ser Leu Phe Pro Asp Ser Leu Ile Val Lys
130 135 140

Gly Phe Asn Val Val Ser Ala Trp Ala Leu Gln Leu Gly Pro Lys Asp
145 150 155 160

Ala Ser Arg Gln Val Tyr Ile Cys Ser Asn Asn Ile Gln Ala Arg Gln
165 170 175

Gln Val Ile Glu Leu Ala Arg Gln Leu Asn Phe Ile Pro Ile Asp Leu
180 185 190

Gly Ser Leu Ser Ser Ala Arg Glu Ile Glu Asn Leu Pro Leu Arg Leu
195 200 205

Phe Thr Leu Trp Arg Gly Pro Val Val Val Ala Ile Ser Leu Ala Thr

210	215	220
Phe Phe Phe Leu Tyr Ser Phe Val Arg Asp Val Ile His Pro Tyr Ala		
225	230	235 240
Arg Asn Gln Gln Ser Asp Phe Tyr Lys Ile Pro Ile Glu Ile Val Asn		
	245	250 255
Lys Thr Leu Pro Ile Val Ala Ile Thr Leu Leu Ser Leu Val Tyr Leu		
	260	265 270
Ala Gly Leu Leu Ala Ala Ala Tyr Gln Leu Tyr Tyr Gly Thr Lys Tyr		
	275	280 285
Arg Arg Phe Pro Pro Trp Leu Glu Thr Trp Leu Gln Cys Arg Lys Gln		
	290	295 300
Leu Gly Leu Leu Ser Phe Phe Phe Ala Met Val His Val Ala Tyr Ser		
305	310	315 320
Leu Cys Leu Pro Met Arg Arg Ser Glu Arg Tyr Leu Phe Leu Asn Met		
	325	330 335
Ala Tyr Gln Gln Val His Ala Asn Ile Glu Asn Ser Trp Asn Glu Glu		
	340	345 350
Glu Val Trp Arg Ile Glu Met Tyr Ile Ser Phe Gly Ile Met Ser Leu		
	355	360 365
Gly Leu Leu Ser Leu Leu Ala Val Thr Ser Ile Pro Ser Val Ser Asn		
	370	375 380
Ala Leu Asn Trp Arg Glu Phe Ser Phe Ile Gln Ser Thr Leu Gly Tyr		
385	390	395 400
Val Ala Leu Leu Ile Ser Thr Phe His Val Leu Ile Tyr Gly Trp Lys		
	405	410 415
Arg Ala Phe Glu Glu Glu Tyr Tyr Arg Phe Tyr Thr Pro Pro Asn Phe		
	420	425 430
Val Leu Ala Leu Val Leu Pro Ser Ile Val Ile Leu Asp Leu Leu Gln		
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Leu Cys Arg Tyr Pro Asp
450

<210> 273
<211> 1933
<212> DNA
<213> human organism

<400> 273
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<212> PRT
<213> human organism

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<400> 274

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Lys Pro Gln Asn Lys His Met Ile Cys Trp Thr Ser Asn Asp Gly Gln
          20          25          30

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Phe Lys Leu Leu Gln Ala Glu Glu Val Ala Arg Leu Trp Gly Ile Arg
          35          40          45

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Lys Asn Lys Pro Asn Met Asn Tyr Asp Lys Leu Ser Arg Ala Leu Arg
          50          55          60

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Tyr Tyr Tyr Val Lys Asn Ile Ile Lys Lys Val Asn Gly Gln Lys Phe
65          70          75          80

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Val Tyr Lys Phe Val Ser Tyr Pro Glu Ile Leu Asn Met Asp Pro Met
          85          90          95

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Thr Val Gly Arg Ile Glu Gly Asp Cys Glu Ser Leu Asn Phe Ser Glu
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Val Ser Ser Ser Ser Lys Asp Val Glu Asn Gly Gly Lys Asp Lys Pro
115 120 125

Pro Gln Pro Gly Ala Lys Thr Ser Ser Arg Asn Asp Tyr Ile His Ser
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Gly Leu Tyr Ser Ser Phe Thr Leu Asn Ser Leu Asn Ser Ser Asn Val
145 150 155 160

Lys Leu Phe Lys Leu Ile Lys Thr Glu Asn Pro Ala Glu Lys Leu Ala
165 170 175

Glu Lys Lys Ser Pro Gln Glu Pro Thr Pro Ser Val Ile Lys Phe Val
180 185 190

Thr Thr Pro Ser Lys Lys Pro Pro Val Glu Pro Val Ala Ala Thr Ile
195 200 205

Ser Ile Gly Pro Ser Ile Ser Pro Ser Ser Glu Glu Thr Ile Gln Ala
210 215 220

Leu Glu Thr Leu Val Ser Pro Lys Leu Pro Ser Leu Glu Ala Pro Thr
225 230 235 240

Ser Ala Ser Asn Val Met Thr Ala Phe Ala Thr Thr Pro Pro Ile Ser
245 250 255

Ser Ile Pro Pro Leu Gln Glu Pro Pro Arg Thr Pro Ser Pro Pro Leu
260 265 270

Ser Ser His Pro Asp Ile Asp Thr Asp Ile Asp Ser Val Ala Ser Gln
275 280 285

Pro Met Glu Leu Pro Glu Asn Leu Ser Leu Glu Pro Lys Asp Gln Asp
290 295 300

Ser Val Leu Leu Glu Lys Asp Lys Val Asn Asn Ser Ser Arg Ser Lys
305 310 315 320

Lys Pro Lys Gly Leu Gly Leu Ala Pro Thr Leu Val Ile Thr Ser Ser
325 330 335

Asp Pro Ser Pro Leu Gly Ile Leu Ser Pro Ser Leu Pro Thr Ala Ser

340

345

350

Leu Thr Pro Ala Phe Phe Ser Gln Thr Pro Ile Ile Leu Thr Pro Ser
 355 360 365

Pro Leu Leu Ser Ser Ile His Phe Trp Ser Thr Leu Ser Pro Val Ala
 370 375 380

Pro Leu Ser Pro Ala Arg Leu Gln Gly Ala Asn Thr Leu Phe Gln Phe
 385 390 395 400

Pro Ser Val Leu Asn Ser His Gly Pro Phe Thr Leu Ser Gly Leu Asp
 405 410 415

Gly Pro Ser Thr Pro Gly Pro Phe Ser Pro Asp Leu Gln Lys Thr
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<212> DNA

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<400> 275

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Gln Lys Lys Lys Asn Asp Leu Arg Tyr Ile Glu Met Gln His Phe Arg
 35 40 45

Glu Lys Leu Pro Ser Tyr Gly Met Gln Lys Glu Leu Val Asn Leu Ile
 50 55 60

Asp Asn His Gln Val Thr Val Ile Ser Gly Glu Thr Gly Cys Gly Lys
 65 70 75 80

Thr Thr Gln Val Thr Gln Phe Ile Leu Asp Asn Tyr Ile Glu Arg Gly
 85 90 95

Lys Gly Ser Ala Cys Arg Ile Val Cys Thr Gln Pro Arg Arg Ile Ser
 100 105 110

Ala Ile Ser Val Ala Glu Arg Val Ala Ala Glu Arg Ala Glu Ser Cys
 115 120 125

Gly Ser Gly Asn Ser Thr Gly Tyr Gln Ile Arg Leu Gln Ser Arg Leu
130 135 140

Pro Arg Lys Gln Gly Ser Ile Leu Tyr Cys Thr Thr Gly Ile Ile Leu
145 150 155 160

Gln Trp Leu Gln Ser Asp Pro Tyr Leu Ser Ser Val Ser His Ile Val
165 170 175

Leu Asp Glu Ile His Glu Arg Asn Leu Gln Ser Asp Val Leu Met Thr
180 185 190

Val Val Lys Asp Leu Leu Asn Phe Arg Ser Asp Leu Lys Val Ile Leu
195 200 205

Met Ser Ala Thr Leu Asn Ala Glu Lys Phe Ser Glu Tyr Phe Gly Asn
210 215 220

Cys Pro Met Ile His Ile Pro Gly Phe Thr Phe Pro Val Val Glu Tyr
225 230 235 240

Leu Leu Glu Asp Val Ile Glu Lys Ile Arg Tyr Val Pro Glu Gln Lys
245 250 255

Glu His Arg Ser Gln Phe Lys Arg Gly Phe Met Gln Gly His Val Asn
260 265 270

Arg Gln Glu Lys Glu Glu Lys Glu Ala Ile Tyr Lys Glu Arg Trp Pro
275 280 285

Asp Tyr Val Arg Glu Leu Arg Arg Arg Tyr Ser Ala Ser Thr Val Asp
290 295 300

Val Ile Glu Met Met Glu Asp Asp Lys Val Asp Leu Asn Leu Ile Val
305 310 315 320

Ala Leu Ile Arg Tyr Ile Val Leu Glu Glu Glu Asp Gly Ala Ile Leu
325 330 335

Val Phe Leu Pro Gly Trp Asp Asn Ile Ser Thr Leu His Asp Leu Leu
340 345 350

Met Ser Gln Val Met Phe Lys Ser Asp Lys Phe Leu Ile Ile Pro Leu

355

360

365

His Ser Leu Met Pro Thr Val Asn Gln Thr Gln Val Phe Lys Arg Thr
 370 375 380

Pro Pro Gly Val Arg Lys Ile Val Ile Ala Thr Asn Ile Ala Glu Thr
 385 390 395 400

Ser Ile Thr Ile Asp Asp Val Val Tyr Val Ile Asp Gly Gly Lys Ile
 405 410 415

Lys Glu Thr His Phe Asp Thr Gln Asn Asn Ile Ser Thr Met Ser Ala
 420 425 430

Glu Trp Val Ser Lys Ala Asn Ala Lys Gln Arg Lys Gly Arg Ala Gly
 435 440 445

Arg Val Gln Pro Gly His Cys Tyr His Leu Tyr Asn Gly Leu Arg Ala
 450 455 460

Ser Leu Leu Asp Asp Tyr Gln Leu Pro Glu Ile Leu Arg Thr Pro Leu
 465 470 475 480

Glu Glu Leu Cys Leu Gln Ile Lys Ile Leu Arg Leu Gly Gly Ile Ala
 485 490 495

Tyr Phe Leu Ser Arg Leu Met Asp Pro Pro Ser Asn Glu Ala Val Leu
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Leu Ser Ile Arg His Leu Met Glu Leu Asn Ala Leu Asp Lys Gln Glu
 515 520 525

Glu Leu Thr Pro Leu Gly Val His Leu Ala Arg Leu Pro Val Glu Pro
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His Ile Gly Lys Met Ile Leu Phe Gly Ala Leu Phe Cys Cys Leu Asp
 545 550 555 560

Pro Val Leu Thr Ile Ala Ala Ser Leu Ser Phe Lys Asp Pro Phe Val
 565 570 575

Ile Pro Leu Gly Lys Glu Lys Ile Ala Asp Ala Arg Arg Lys Glu Leu
 580 585 590

Ala Lys Asp Thr Arg Ser Asp His Leu Thr Val Val Asn Ala Phe Glu
595 600 605

Gly Trp Glu Glu Ala Arg Arg Arg Gly Phe Arg Tyr Glu Lys Asp Tyr
610 615 620

Cys Trp Glu Tyr Phe Leu Ser Ser Asn Thr Leu Gln Met Leu His Asn
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Met Lys Gly Gln Phe Ala Glu His Leu Leu Gly Ala Gly Phe Val Ser
645 650 655

Ser Arg Asn Pro Lys Asp Pro Glu Ser Asn Ile Asn Ser Asp Asn Glu
660 665 670

Lys Ile Ile Lys Ala Val Ile Cys Ala Gly Leu Tyr Pro Lys Val Ala
675 680 685

Lys Ile Arg Leu Asn Leu Gly Lys Lys Arg Lys Met Val Lys Val Tyr
690 695 700

Thr Lys Thr Asp Gly Leu Val Ala Val His Pro Lys Ser Val Asn Val
705 710 715 720

Glu Gln Thr Asp Phe His Tyr Asn Trp Leu Ile Tyr His Leu Lys Met
725 730 735

Arg Thr Ser Ser Ile Tyr Leu Tyr Asp Cys Thr Glu Val Ser Pro Tyr
740 745 750

Cys Leu Leu Phe Phe Gly Gly Asp Ile Ser Ile Gln Lys Asp Asn Asp
755 760 765

Gln Glu Thr Ile Ala Val Asp Glu Trp Ile Val Phe Gln Ser Pro Ala
770 775 780

Arg Ile Ala His Leu Val Lys Glu Leu Arg Lys Glu Leu Asp Ile Leu
785 790 795 800

Leu Gln Glu Lys Ile Glu Ser Pro His Pro Val Asp Trp Asn Asp Thr
805 810 815

Lys Ser Arg Asp Cys Ala Val Leu Ser Ala Ile Ile Asp Leu Ile Lys
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Gly Tyr Tyr Ser
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<211> 1671
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<400> 278

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 Gly Phe Val Glu Ser Arg Phe Phe Pro Pro Thr Arg Gln Met Gly Leu
 50 55 60
 Leu Phe Thr Trp Tyr Asp Ser Leu Thr Gly Val Pro Val Ser Gln Gln
 65 70 75 80
 Asn Leu Leu Leu Glu Lys Ala Ser Val Leu Phe Asn Thr Gly Ala Leu
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 Tyr Thr Gln Ile Gly Thr Arg Cys Asp Arg Gln Thr Gln Ala Gly Leu
 100 105 110
 Glu Ser Ala Ile Asp Ala Phe Gln Arg Ala Ala Gly Val Leu Asn Tyr
 115 120 125

Leu Lys Asp Thr Phe Thr His Thr Pro Ser Tyr Asp Met Ser Pro Ala
130 135 140

Met Leu Ser Val Leu Val Lys Met Met Leu Ala Gln Ala Gln Glu Ser
145 150 155 160

Val Phe Glu Lys Ile Ser Leu Pro Gly Ile Arg Asn Glu Phe Phe Met
165 170 175

Leu Val Lys Val Ala Gln Glu Ala Ala Lys Val Gly Glu Val Tyr Gln
180 185 190

Gln Leu His Ala Ala Met Ser Gln Ala Pro Val Lys Glu Asn Ile Pro
195 200 205

Tyr Ser Trp Ala Ser Leu Ala Cys Val Lys Ala His His Tyr Ala Ala
210 215 220

Leu Ala His Tyr Phe Thr Ala Ile Leu Leu Ile Asp His Gln Val Lys
225 230 235 240

Pro Gly Thr Asp Leu Asp His Gln Glu Lys Cys Leu Ser Gln Leu Tyr
245 250 255

Asp His Met Pro Glu Gly Leu Thr Pro Leu Ala Thr Leu Lys Asn Asp
260 265 270

Gln Gln Arg Arg Gln Leu Gly Lys Ser His Leu Arg Arg Ala Met Ala
275 280 285

His His Glu Glu Ser Val Arg Glu Ala Ser Leu Cys Lys Lys Leu Arg
290 295 300

Ser Ile Glu Val Leu Gln Lys Val Leu Cys Ala Ala Gln Glu Arg Ser
305 310 315 320

Arg Leu Thr Tyr Ala Gln His Gln Glu Glu Asp Asp Leu Leu Asn Leu
325 330 335

Ile Asp Ala Pro Ser Val Val Ala Lys Thr Glu Gln Glu Val Asp Ile
340 345 350

Ile Leu Pro Gln Phe Ser Lys Leu Thr Val Thr Asp Phe Phe Gln Lys
 355 360 365

Leu Gly Pro Leu Ser Val Phe Ser Ala Asn Lys Arg Trp Thr Pro Pro
 370 375 380

Arg Ser Ile Arg Phe Thr Ala Glu Glu Gly Asp Leu Gly Phe Thr Leu
 385 390 395 400

Arg Gly Asn Ala Pro Val Gln Val His Phe Leu Asp Pro Tyr Cys Ser
 405 410 415

Ala Ser Val Ala Gly Ala Arg Glu Gly Asp Tyr Ile Val Ser Ile Gln
 420 425 430

Leu Val Asp Cys Lys Trp Leu Thr Leu Ser Glu Val Met Lys Leu Leu
 435 440 445

Lys Ser Phe Gly Glu Asp Glu Ile Glu Met Lys Val Val Ser Leu Leu
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Asp Ser Thr Ser Ser Met His Asn Lys Ser Ala Thr Tyr Ser Val Gly
 465 470 475 480

Met Gln Lys Thr Tyr Ser Met Ile Cys Leu Ala Ile Asp Asp Asp Asp
 485 490 495

Lys Thr Asp Lys Thr Lys Lys Ile Ser Lys Lys Leu Ser Phe Leu Ser
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Trp Gly Thr Asn Lys Asn Arg Gln Lys Ser Ala Ser Thr Leu Cys Leu
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Arg Arg Arg Asp Ser Asp Tyr Lys Arg Ser Ser Asp Asp Arg Arg Gly
35 40 45

Asp Arg Tyr Asp Asp Tyr Arg Asp Tyr Asp Ser Pro Glu Arg Glu Arg
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Glu Arg Arg Asn Ser Asp Arg Ser Glu Asp Gly Tyr His Ser Asp Gly
65 70 75 80

Asp Tyr Gly Glu His Asp Tyr Arg His Asp Ile Ser Asp Glu Arg Glu
85 90 95

Ser Lys Thr Ile Met Leu Arg Gly Leu Pro Ile Thr Ile Thr Glu Ser
100 105 110

Asp Ile Arg Glu Met Met Glu Ser Phe Glu Gly Pro Gln Pro Ala Asp
115 120 125

Val Arg Leu Met Lys Arg Lys Thr Gly Glu Ser Leu Leu Ser Ser
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<212> PRT

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35 40 45

Lys Val Tyr Ser Gln Ser Lys Asn Ile Pro Pro Ser Gln Pro Ala Ser
50 55 60

Thr Thr Val Ser Thr Ser Leu Pro Val Pro Asn Pro Ser Leu Pro Tyr
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Glu Gln Thr Ile Val Phe Pro Gly Ser Thr Gly His Ile Val Val Thr
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Ser Ala Ser Ser Thr Ser Val Thr Gly Gln Val Leu Gly Gly Pro His
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Asn Leu Met Arg Arg Ser Thr Val Ser Leu Leu Asp Thr Tyr Gln Lys
115 120 125

Cys Gly Leu Lys Arg Lys Ser Glu Glu Ile Glu Asn Thr Ser Ser Val
130 135 140

Gln Ile Ile Glu Glu His Pro Pro Met Ile Gln Asn Asn Ala Ser Gly
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Ala Thr Val Ala Thr Ala Thr Thr Ser Thr Ala Thr Ser Lys Asn Ser
165 170 175

Gly Ser Asn Ser Glu Gly Asp Tyr Gln Leu Val Gln His Glu Val Leu
180 185 190

Cys Ser Met Thr Asn Thr Tyr Glu Val Leu Glu Phe Leu Gly Arg Gly
195 200 205

Thr Phe Gly Gln Val Val Lys Cys Trp Lys Arg Gly Thr Asn Glu Ile
210 215 220

Val Ala Ile Lys Ile Leu Lys Asn Arg Pro Ser Tyr Ala Arg Gln Gly
225 230 235 240

Gln Ile Glu Val Ser Ile Leu Ala Arg Leu Ser Thr Glu Ser Ala Asp
245 250 255

Asp Tyr Asn Phe Val Arg Ala Tyr Glu Cys Phe Gln His Lys Asn His
260 265 270

Thr Cys Leu Val Phe Glu Met Leu Glu Gln Asn Leu Tyr Asp Phe Leu
275 280 285

Lys Gln Asn Lys Phe Ser Pro Leu Pro Leu Lys Tyr Ile Arg Pro Val
290 295 300

Leu Gln Gln Val Ala Thr Ala Leu Met Lys Leu Lys Ser Leu Gly Leu
305 310 315 320

Ile His Ala Asp Leu Lys Pro Glu Asn Ile Met Leu Val Asp Pro Ser
325 330 335

Arg Gln Pro Tyr Arg Val Lys Val Ile Asp Phe Gly Ser Ala Ser His
340 345 350

Val Ser Lys Ala Val Cys Ser Thr Tyr Leu Gln Ser Arg Tyr Tyr Arg
355 360 365

Ala Pro Glu Ile Ile Leu Gly Leu Pro Phe Cys Glu Ala Ile Asp Met
370 375 380

Trp Ser Leu Gly Cys Val Ile Ala Glu Leu Phe Leu Gly Trp Pro Leu
385 390 395 400

Tyr Pro Gly Ala Ser Glu Tyr Asp Gln Ile Arg Tyr Ile Ser Gln Thr
405 410 415

Gln Gly Leu Pro Ala Glu Tyr Leu Leu Ser Ala Gly Thr Lys Thr Thr
420 425 430

Arg Phe Phe Asn Arg Asp Thr Asp Ser Pro Tyr Pro Leu Trp Arg Leu
435 440 445

Lys Thr Pro Asp Asp His Glu Ala Glu Thr Gly Ile Lys Ser Lys Glu
450 455 460

Ala Arg Lys Tyr Ile Phe Asn Cys Leu Asp Asp Met Ala Gln Val Asn
465 470 475 480

Met Thr Thr Asp Leu Glu Gly Ser Asp Met Leu Val Glu Lys Ala Asp
485 490 495

Arg Arg Glu Phe Ile Asp Leu Leu Lys Lys Met Leu Thr Ile Asp Ala
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Asp Lys Arg Ile Thr Pro Ile Glu Thr Leu Asn His Pro Phe Val Thr
515 520 525

Met Thr His Leu Leu Asp Phe Pro His Ser Thr His Val Lys Ser Cys
530 535 540

Phe Gln Asn Met Glu Ile Cys Lys Arg Arg Val Asn Met Tyr Asp Thr
545 550 555 560

Val Asn Gln Ser Lys Thr Pro Phe Ile Thr His Val Ala Pro Ser Thr
565 570 575

Ser Thr Asn Leu Thr Met Thr Phe Asn Asn Gln Leu Thr Thr Val His
580 585 590

Asn Gln Ala Pro Ser Ser Thr Ser Ala Thr Ile Ser Leu Ala Asn Pro
595 600 605

Glu Val Ser Ile Leu Asn Tyr Pro Ser Thr Leu Tyr Gln Pro Ser Ala
610 615 620

Ala Ser Met Ala Ala Val Ala Gln Arg Ser Met Pro Leu Gln Thr Gly
625 630 635 640

Thr Ala Gln Ile Cys Ala Arg Pro Asp Pro Phe Gln Gln Ala Leu Ile
645 650 655

Val Cys Pro Pro Gly Phe Gln Gly Leu Gln Ala Ser Pro Ser Lys His
660 665 670

Ala Gly Tyr Ser Val Arg Met Glu Asn Ala Val Pro Ile Val Thr Gln
675 680 685

Ala Pro Gly Ala Gln Pro Leu Gln Ile Gln Pro Gly Leu Leu Ala Gln

690

695

700

Gln Ala Trp Pro Ser Gly Thr Gln Gln Ile Leu Leu Pro Pro Ala Trp
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Gln Gln Leu Thr Gly Val Ala Thr His Thr Ser Val Gln His Ala Thr
 725 730 735

Val Ile Pro Glu Thr Met Ala Gly Thr Gln Gln Leu Ala Asp Trp Arg
 740 745 750

Asn Thr His Ala His Gly Ser His Tyr Asn Pro Ile Met Gln Gln Pro
 755 760 765

Ala Leu Leu Thr Gly His Val Thr Leu Pro Ala Ala Gln Pro Leu Asn
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Val Gly Val Ala His Val Met Arg Gln Gln Pro Thr Ser Thr Thr Ser
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Ser Arg Lys Ser Lys Gln His Gln Ser Ser Val Arg Asn Val Ser Thr
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Cys Glu Val Ser Ser Ser Gln Ala Ile Ser Ser Pro Gln Arg Ser Lys
 820 825 830

Arg Val Lys Glu Asn Thr Pro Pro Arg Cys Ala Met Val His Ser Ser
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Pro Ala Cys Ser Thr Ser Val Thr Cys Gly Trp Gly Asp Val Ala Ser
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Ser Thr Thr Arg Glu Arg Gln Arg Gln Thr Ile Val Ile Pro Asp Thr
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Pro Ser Pro Thr Val Ser Val Ile Thr Ile Ser Ser Asp Thr Asp Glu
 885 890 895

Glu Glu Glu Gln Lys His Ala Pro Thr Ser Thr Val Ser Lys Gln Arg
 900 905 910

Lys Asn Val Ile Ser Cys Val Thr Val His Asp Ser Pro Tyr Ser Asp
 915 920 925

Ser Ser Ser Asn Thr Ser Pro Tyr Ser Val Gln Gln Arg Ala Gly His
930 935 940

Asn Asn Ala Asn Ala Phe Asp Thr Lys Gly Ser Leu Glu Asn His Cys
945 950 955 960

Thr Gly Asn Pro Arg Thr Ile Ile Val Pro Pro Leu Lys Thr Gln Ala
965 970 975

Ser Glu Val Leu Val Glu Cys Asp Ser Leu Val Pro Val Asn Thr Ser
980 985 990

His His Ser Ser Ser Tyr Lys Ser Lys Ser Ser Ser Asn Val Thr Ser
995 1000 1005

Thr Ser Gly His Ser Ser Gly Ser Ser Ser Gly Ala Ile Thr Tyr
1010 1015 1020

Arg Gln Gln Arg Pro Gly Pro His Phe Gln Gln Gln Gln Pro Leu
1025 1030 1035

Asn Leu Ser Gln Ala Gln Gln His Ile Thr Thr Asp Arg Thr Gly
1040 1045 1050

Ser His Arg Arg Gln Gln Ala Tyr Ile Thr Pro Thr Met Ala Gln
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Ala Pro Tyr Ser Phe Pro His Asn Ser Pro Ser His Gly Thr Val
1070 1075 1080

His Pro His Leu Ala Ala Ala Ala Ala Ala Ala His Leu Pro Thr
1085 1090 1095

Gln Pro His Leu Tyr Thr Tyr Thr Ala Pro Ala Ala Leu Gly Ser
1100 1105 1110

Thr Gly Thr Val Ala His Leu Val Ala Ser Gln Gly Ser Ala Arg
1115 1120 1125

His Thr Val Gln His Thr Ala Tyr Pro Ala Ser Ile Val His Gln
1130 1135 1140

Val Pro Val Ser Met Gly Pro Arg Val Leu Pro Ser Pro Thr Ile
 1145 1150 1155

His Pro Ser Gln Tyr Pro Ala Gln Phe Ala His Gln Thr Tyr Ile
 1160 1165 1170

Ser Ala Ser Pro Ala Ser Thr Val Tyr Thr Gly Tyr Pro Leu Ser
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Pro Ala Lys Val Asn Gln Tyr Pro Tyr Ile
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 35 40 45

Thr Leu Arg Arg Ser Gln Ser Asp Arg Thr Glu Tyr Asn Gln Lys Leu
 50 55 60

Gln Glu Lys Met Thr Pro Gln Gly Glu Cys Ser Val Ala Glu Thr Leu
 65 70 75 80

Thr Pro Glu Glu Glu His His Met Lys Arg Met Met Ala Lys Arg Glu
 85 90 95

Lys Ile Ile Lys Glu Leu Ile Gln Thr Glu Lys Asp Tyr Leu Asn Asp
 100 105 110

Leu Glu Leu Cys Val Arg Glu Val Val Gln Pro Leu Arg Asn Lys Lys
 115 120 125

Thr Asp Arg Leu Asp Val Asp Ser Leu Phe Ser Asn Ile Glu Ser Val

130

135

140

His Gln Ile Ser Ala Lys Leu Leu Ser Leu Leu Glu Glu Ala Thr Thr
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Asp Val Glu Pro Ala Met Gln Val Ile Gly Glu Val Phe Leu Gln Ile
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Lys Gly Pro Leu Glu Asp Ile Tyr Lys Ile Tyr Cys Tyr His His Asp
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Glu His Leu Ser His Cys Ile Gln Ser Leu Lys
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Ala	Ala	Gly	Ser	Ser	Glu	Ser	Cys	Lys	Ala	Thr	Val	Pro	Ile	Cys	Gln
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Tyr Glu Glu Asp Glu Asn Ile Leu Gly Val Val Gly Gly Thr Leu Lys
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Asp Phe Leu Asn Ser Phe Ser Thr Leu Leu Lys Gln Ser Ser His Cys
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Gln Glu Ala Gly Lys Arg Gly Arg Leu Glu Asp Ala Ser Ile Leu Cys
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Arg Thr Thr Ser Leu Ile Leu Pro Gly Ile Ile Lys Ala Ala Ala His
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Val Leu Tyr Glu Thr Glu Val Glu Val Ser Leu Met Pro Pro Cys Phe
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His Asn Asp Cys Ser Glu Phe Val Asn Gln Pro Tyr Leu Leu Tyr Ser
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Val His Met Lys Ser Thr Lys Pro Ser Leu Ser Pro Ser Lys Pro Gln
260 265 270

Ser Ser Leu Val Ile Pro Thr Ser Leu Phe Cys Lys Thr Phe Pro Phe
275 280 285

His Phe Met Phe Asp Lys Asp Met Thr Ile Leu Gln Phe Gly Asn Gly
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Ile Arg Arg Leu Met Asn Arg Arg Asp Phe Gln Gly Lys Pro Asn Phe
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Glu Glu Tyr Phe Glu Ile Leu Thr Pro Lys Ile Asn Gln Thr Phe Ser
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Gly Ile Met Thr Met Leu Asn Met Gln Phe Val Val Arg Val Arg Arg
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Trp Asp Asn Ser Val Lys Lys Ser Ser Arg Val Met Asp Leu Lys Gly

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Lys Thr Val Asp Leu Leu Cys Ser Ile Phe Pro Cys Glu Val Ala Gln 450 455 460		
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Gly Asp Ala Tyr Cys Val Ala Gly Gly Leu His Lys Glu Ser Asp Thr 530 535 540		
His Ala Val Gln Ile Ala Leu Met Ala Leu Lys Met Met Glu Leu Ser 545 550 555 560		
Asp Glu Val Met Ser Pro His Gly Glu Pro Ile Lys Met Arg Ile Gly 565 570 575		
Leu His Ser Gly Ser Val Phe Ala Gly Val Val Gly Val Lys Met Pro 580 585 590		

Arg Tyr Cys Leu Phe Gly Asn Asn Val Thr Leu Ala Asn Lys Phe Glu
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Ser Cys Ser Val Pro Arg Lys Ile Asn Val Ser Pro Thr Thr Tyr Arg
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Glu Leu Pro Pro Asn Phe Pro Ser Glu Ile Pro Gly Ile Cys His Phe
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Ile Asp
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Ala Ala Gln Thr Met Ser Thr Ser Ala Pro Pro Pro Val Gly Ser Leu	65	70	75
Ser Gln Arg Lys Arg Gln Gln Tyr Ala Lys Ser Lys Lys Gln Gly Asn	85	90	95
Ser Ser Asn Ser Arg Pro Ala Arg Ala Leu Phe Cys Leu Ser Leu Asn	100	105	110
Asn Pro Ile Arg Arg Ala Cys Ile Ser Ile Val Glu Trp Lys Pro Phe	115	120	125
Asp Ile Phe Ile Leu Leu Ala Ile Phe Ala Asn Cys Val Ala Leu Ala	130	135	140
Ile Tyr Ile Pro Phe Pro Glu Asp Asp Ser Asn Ser Thr Asn His Asn	145	150	155
Leu Glu Lys Val Glu Tyr Ala Phe Leu Ile Ile Phe Thr Val Glu Thr	165	170	175
Phe Leu Lys Ile Ile Ala Tyr Gly Leu Leu Leu His Pro Asn Ala Tyr	180	185	190
Val Arg Asn Gly Trp Asn Leu Leu Asp Phe Val Ile Val Ile Val Gly	195	200	205
Leu Phe Ser Val Ile Leu Glu Gln Leu Thr Lys Glu Thr Glu Gly Gly	210	215	220
Asn His Ser Ser Gly Lys Ser Gly Gly Phe Asp Val Lys Ala Leu Arg	225	230	235
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Leu Gln Val Val Leu Asn Ser Ile Ile Lys Ala Met Val Pro Leu Leu
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His Ile Ala Leu Leu Val Leu Phe Val Ile Ile Ile Tyr Ala Ile Ile
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Tyr Phe Val Ser Leu Ile Ile Leu Gly Ser Phe Phe Val Leu Asn Leu
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Val Leu Gly Val Leu Ser Gly Glu Phe Ser Lys Glu Arg Glu Lys Ala
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Asp Pro Glu Asn Glu Glu Glu Gly Gly Glu Glu Gly Lys Arg Asn Thr
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Ser Met Pro Thr Ser Glu Thr Glu Ser Val Asn Thr Glu Asn Val Ser
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Lys Met Tyr Ser Leu Gly Leu Gln Ala Tyr Phe Val Ser Leu Phe Asn
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Leu Leu Leu Leu Leu Phe Leu Phe Ile Ile Ile Phe Ser Leu Leu Gly
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Met Gln Leu Phe Gly Gly Lys Phe Asn Phe Asp Glu Thr Gln Thr Lys
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Arg Ser Thr Phe Asp Asn Phe Pro Gln Ala Leu Leu Thr Val Phe Gln
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Ile Leu Thr Gly Glu Asp Trp Asn Ala Val Met Tyr Asp Gly Ile Met
725 730 735

Ala Tyr Gly Gly Pro Ser Ser Ser Gly Met Ile Val Cys Ile Tyr Phe
740 745 750

Ile Ile Leu Phe Ile Cys Gly Asn Tyr Ile Leu Leu Asn Val Phe Leu
755 760 765

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770 775 780

Gln Lys Glu Glu Ala Glu Glu Lys Glu Arg Lys Lys Ile Ala Arg Lys
785 790 795 800

Glu Ser Leu Glu Asn Lys Lys Asn Asn Lys Pro Glu Val Asn Gln Ile
805 810 815

Ala Asn Ser Asp Asn Lys Val Thr Ile Asp Asp Tyr Arg Glu Glu Asp
820 825 830

Glu Asp Lys Asp Pro Tyr Pro Pro Cys Asp Val Pro Val Gly Glu Glu
835 840 845

Glu Glu Glu Glu Glu Glu Asp Glu Pro Glu Val Pro Ala Gly Pro Arg
850 855 860

Pro Arg Arg Ile Ser Glu Leu Asn Met Lys Glu Lys Ile Ala Pro Ile
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Pro Glu Gly Ser Ala Phe Phe Ile Leu Ser Lys Thr Asn Pro Ile Arg
885 890 895

Val Gly Cys His Lys Leu Ile Asn His His Ile Phe Thr Asn Leu Ile
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Leu Val Phe Ile Met Leu Ser Ser Ala Ala Leu Ala Ala Glu Asp Pro

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Ala Phe Thr Ala Ile Phe Thr Val Glu Ile Leu Leu Lys Met Thr Thr 945	950	955
Phe Gly Ala Phe Leu His Lys Gly Ala Phe Cys Arg Asn Tyr Phe Asn 965	970	975
Leu Leu Asp Met Leu Val Val Gly Val Ser Leu Val Ser Phe Gly Ile 980	985	990
Gln Ser Ser Ala Ile Ser Val Val Lys Ile Leu Arg Val Leu Arg Val 995	1000	1005
Leu Arg Pro Leu Arg Ala Ile Asn Arg Ala Lys Gly Leu Lys His 1010	1015	1020
Val Val Gln Cys Val Phe Val Ala Ile Arg Thr Ile Gly Asn Ile 1025	1030	1035
Met Ile Val Thr Thr Leu Leu Gln Phe Met Phe Ala Cys Ile Gly 1040	1045	1050
Val Gln Leu Phe Lys Gly Lys Phe Tyr Arg Cys Thr Asp Glu Ala 1055	1060	1065
Lys Ser Asn Pro Glu Glu Cys Arg Gly Leu Phe Ile Leu Tyr Lys 1070	1075	1080
Asp Gly Asp Val Asp Ser Pro Val Val Arg Glu Arg Ile Trp Gln 1085	1090	1095
Asn Ser Asp Phe Asn Phe Asp Asn Val Leu Ser Ala Met Met Ala 1100	1105	1110
Leu Phe Thr Val Ser Thr Phe Glu Gly Trp Pro Ala Leu Leu Tyr 1115	1120	1125
Lys Ala Ile Asp Ser Asn Gly Glu Asn Ile Gly Pro Ile Tyr Asn 1130	1135	1140

His Arg Val Glu Ile Ser Ile Phe Phe Ile Ile Tyr Ile Ile Ile
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Pro Leu Arg Arg Tyr Ile Pro Lys Asn Pro Tyr Gln Tyr Lys Phe
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Trp Tyr Val Val Asn Ser Ser Pro Phe Glu Tyr Met Met Phe Val
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Leu Ile Met Leu Asn Thr Leu Cys Leu Ala Met Gln His Tyr Glu
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Gln Ser Lys Met Phe Asn Asp Ala Met Asp Ile Leu Asn Met Val
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Phe Thr Gly Val Phe Thr Val Glu Met Val Leu Lys Val Ile Ala
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Phe Lys Pro Lys Gly Tyr Phe Ser Asp Ala Trp Asn Thr Phe Asp
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Ser Leu Ile Val Ile Gly Ser Ile Ile Asp Val Ala Leu Ser Glu
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Pro Gly Asn Ser Glu Glu Ser Asn Arg Ile Ser Ile Thr Phe Phe
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Glu Gly Ile Arg Thr Leu Leu Trp Thr Phe Ile Lys Ser Phe Gln
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Tyr Ala Val Ile Gly Met Gln Met Phe Gly Lys Val Ala Met Arg
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Asp Asn Asn Gln Ile Asn Arg Asn Asn Asn Phe Gln Thr Phe Pro
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Gln Glu Ile Met Leu Ala Cys Leu Pro Gly Lys Leu Cys Asp Pro
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Glu Ser Asp Tyr Asn Pro Gly Glu Glu Tyr Thr Cys Gly Ser Asn
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Glu Phe Lys Arg Ile Trp Ser Glu Tyr Asp Pro Glu Ala Lys Gly
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Val Met Phe Asn Ala Thr Leu Phe Ala Leu Val Arg Thr Ala Leu
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Arg Ala Val Ile Lys Lys Ile Trp Lys Lys Thr Ser Met Lys Leu
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Gly Lys Phe Tyr Ala Thr Phe Leu Ile Gln Asp Tyr Phe Arg Lys
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Asp Ile Gly Pro Glu Ile Arg Arg Ala Ile Ser Cys Asp Leu Gln
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Asp Asp Glu Pro Glu Glu Thr Lys Arg Glu Glu Glu Asp Asp Val
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Thr Glu Lys Pro Leu Phe Pro Pro Ala Gly Asn Ser Val Cys His
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Glu Ile His Gly Tyr Phe 1850	Arg Asp Pro His Cys Leu 1855	Gly Glu Gln 1860
Glu Tyr Phe Ser Ser Glu 1865	Glu Cys Tyr Glu Asp Asp 1870	Ser Ser Pro 1875
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Gly Phe Leu Glu Asp Asp 1910	Asp Ser Pro Val Cys Tyr 1915	Asp Ser Arg 1920
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Arg Arg Ser Ser Phe Asn 1940	Phe Glu Cys Leu Arg Arg 1945	Gln Ser Ser 1950
Gln Glu Glu Val Pro Ser 1955	Ser Pro Ile Phe Pro His 1960	Arg Thr Ala 1965
Leu Pro Leu His Leu Met 1970	Gln Gln Ile Met Ala 1975	Val Ala Gly 1980
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Trp Leu Leu Asp Gly Ala Pro Val Gln Asp Thr Glu Arg Arg Phe Ala
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Gln Gly Ser Ser Leu Ser Phe Ala Ala Val Asp Arg Leu Gln Asp Ser
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Val Val Leu Lys His Pro Ala Ser Glu Ala Glu Ile Gln Pro Gln Thr
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Gln Val Thr Leu Arg Cys His Ile Asp Gly His Pro Arg Pro Thr Tyr
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Ala Cys Ser Ser Gln Asn Phe Thr Leu Ser Ile Ala Asp Glu Ser Phe
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Ala Arg Val Val Leu Ala Pro Gln Asp Val Val Val Ala Arg Tyr Glu
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Gln Trp Leu Phe Glu Asp Glu Thr Pro Ile Thr Asn Arg Ser Arg Pro
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Ser Val Trp Trp Glu His Ala Gly Val Arg Leu Pro Thr His Gly Arg						
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Cys Leu Thr Gln Ala Thr Pro Lys Pro Thr Val Val Trp Tyr Arg Asn						
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Arg Glu Lys Pro Thr Ile Lys Trp Glu Arg Ala Asp Gly Ser Ser Leu						
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Trp Lys Gly Lys Asp Arg Ile Leu Asp Pro Thr Lys Leu Gly Pro Arg
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660 665 670

Lys His Thr Glu Ala Pro Leu Tyr Val Val Asp Lys Pro Val Pro Glu
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Glu Ser Glu Gly Pro Gly Ser Pro Pro Pro Tyr Lys Met Ile Gln Thr
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Ile Gly Leu Ser Val Gly Ala Ala Val Ala Tyr Ile Ile Ala Val Leu
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Gly Leu Met Phe Tyr Cys Lys Lys Arg Cys Lys Ala Lys Arg Leu Gln
725 730 735

Lys Gln Pro Glu Gly Glu Glu Pro Glu Met Glu Cys Leu Asn Gly Gly
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Pro Leu Gln Asn Gly Gln Pro Ser Ala Glu Ile Gln Glu Glu Val Ala
755 760 765

Leu Thr Ser Leu Gly Ser Gly Pro Ala Ala Thr Asn Lys Arg His Ser
770 775 780

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Lys Asp Leu Ala Ala Arg Asn Cys Leu Val Ser Ala Gln Arg Gln Val
930 935 940

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Gly Val Leu Met Trp Glu Val Phe Thr His Gly Glu Met Pro His Gly
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 <212> PRT
 <213> human organism

<400> 292

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Trp Gly Pro Arg Arg Arg Pro Pro Leu Leu Pro Leu Leu Leu Leu Leu
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Leu Pro Pro Pro Pro Arg Val Gly Gly Phe Asn Leu Asp Ala Glu Ala
 35 40 45

Pro Ala Val Leu Ser Gly Pro Pro Gly Ser Phe Phe Gly Phe Ser Val
 50 55 60

Glu Phe Tyr Arg Pro Gly Thr Asp Gly Val Ser Val Leu Val Gly Ala
 65 70 75 80

Pro Lys Ala Asn Thr Ser Gln Pro Gly Val Leu Gln Gly Gly Ala Val
 85 90 95

Tyr Leu Cys Pro Trp Gly Ala Ser Pro Thr Gln Cys Thr Pro Ile Glu
 100 105 110

Phe Asp Ser Lys Gly Ser Arg Leu Leu Glu Ser Ser Leu Ser Ser Ser
115 120 125

Glu Gly Glu Glu Pro Val Glu Tyr Lys Ser Leu Gln Trp Phe Gly Ala
130 135 140

Thr Val Arg Ala His Gly Ser Ser Ile Leu Ala Cys Ala Pro Leu Tyr
145 150 155 160

Ser Trp Arg Thr Glu Lys Glu Pro Leu Ser Asp Pro Val Gly Thr Cys
165 170 175

Tyr Leu Ser Thr Asp Asn Phe Thr Arg Ile Leu Glu Tyr Ala Pro Cys
180 185 190

Arg Ser Asp Phe Ser Trp Ala Ala Gly Gln Gly Tyr Cys Gln Gly Gly
195 200 205

Phe Ser Ala Glu Phe Thr Lys Thr Gly Arg Val Val Leu Gly Gly Pro
210 215 220

Gly Ser Tyr Phe Trp Gln Gly Gln Ile Leu Ser Ala Thr Gln Glu Gln
225 230 235 240

Ile Ala Glu Ser Tyr Tyr Pro Glu Tyr Leu Ile Asn Leu Val Gln Gly
245 250 255

Gln Leu Gln Thr Arg Gln Ala Ser Ser Ile Tyr Asp Asp Ser Tyr Leu
260 265 270

Gly Tyr Ser Val Ala Val Gly Glu Phe Ser Gly Asp Asp Thr Glu Asp
275 280 285

Phe Val Ala Gly Val Pro Lys Gly Asn Leu Thr Tyr Gly Tyr Val Thr
290 295 300

Ile Leu Asn Gly Ser Asp Ile Arg Ser Leu Tyr Asn Phe Ser Gly Glu
305 310 315 320

Gln Met Ala Ser Tyr Phe Gly Tyr Ala Val Ala Ala Thr Asp Val Asn
325 330 335

Gly Asp Gly Leu Asp Asp Leu Leu Val Gly Ala Pro Leu Leu Met Asp
340 345 350

Arg Thr Pro Asp Gly Arg Pro Gln Glu Val Gly Arg Val Tyr Val Tyr
355 360 365

Leu Gln His Pro Ala Gly Ile Glu Pro Thr Pro Thr Leu Thr Leu Thr
370 375 380

Gly His Asp Glu Phe Gly Arg Phe Gly Ser Ser Leu Thr Pro Leu Gly
385 390 395 400

Asp Leu Asp Gln Asp Gly Tyr Asn Asp Val Ala Ile Gly Ala Pro Phe
405 410 415

Gly Gly Glu Thr Gln Gln Gly Val Val Phe Val Phe Pro Gly Gly Pro
420 425 430

Gly Gly Leu Gly Ser Lys Pro Ser Gln Val Leu Gln Pro Leu Trp Ala
435 440 445

Ala Ser His Thr Pro Asp Phe Phe Gly Ser Ala Leu Arg Gly Gly Arg
450 455 460

Asp Leu Asp Gly Asn Gly Tyr Pro Asp Leu Ile Val Gly Ser Phe Gly
465 470 475 480

Val Asp Lys Ala Val Val Tyr Arg Gly Arg Pro Ile Val Ser Ala Ser
485 490 495

Ala Ser Leu Thr Ile Phe Pro Ala Met Phe Asn Pro Glu Glu Arg Ser
500 505 510

Cys Ser Leu Glu Gly Asn Pro Val Ala Cys Ile Asn Leu Ser Phe Cys
515 520 525

Leu Asn Ala Ser Gly Lys His Val Ala Asp Ser Ile Gly Phe Thr Val
530 535 540

Glu Leu Gln Leu Asp Trp Gln Lys Gln Lys Gly Gly Val Arg Arg Ala
545 550 555 560

Leu Phe Leu Ala Ser Arg Gln Ala Thr Leu Thr Gln Thr Leu Leu Ile

565

570

575

Gln Asn Gly Ala Arg Glu Asp Cys Arg Glu Met Lys Ile Tyr Leu Arg
580 585 590

Asn Glu Ser Glu Phe Arg Asp Lys Leu Ser Pro Ile His Ile Ala Leu
595 600 605

Asn Phe Ser Leu Asp Pro Gln Ala Pro Val Asp Ser His Gly Leu Arg
610 615 620

Pro Ala Leu His Tyr Gln Ser Lys Ser Arg Ile Glu Asp Lys Ala Gln
625 630 635 640

Ile Leu Leu Asp Cys Gly Glu Asp Asn Ile Cys Val Pro Asp Leu Gln
645 650 655

Leu Glu Val Phe Gly Glu Gln Asn His Val Tyr Leu Gly Asp Lys Asn
660 665 670

Ala Leu Asn Leu Thr Phe His Ala Gln Asn Val Gly Glu Gly Gly Ala
675 680 685

Tyr Glu Ala Glu Leu Arg Val Thr Ala Pro Pro Glu Ala Glu Tyr Ser
690 695 700

Gly Leu Val Arg His Pro Gly Asn Phe Ser Ser Leu Ser Cys Asp Tyr
705 710 715 720

Phe Ala Val Asn Gln Ser Arg Leu Leu Val Cys Asp Leu Gly Asn Pro
725 730 735

Met Lys Ala Gly Ala Ser Leu Trp Gly Gly Leu Arg Phe Thr Val Pro
740 745 750

His Leu Arg Asp Thr Lys Lys Thr Ile Gln Phe Asp Phe Gln Ile Leu
755 760 765

Ser Lys Asn Leu Asn Asn Ser Gln Ser Asp Val Val Ser Phe Arg Leu
770 775 780

Ser Val Glu Ala Gln Ala Gln Val Thr Leu Asn Gly Val Ser Lys Pro
785 790 795 800

Glu Ala Val Leu Phe Pro Val Ser Asp Trp His Pro Arg Asp Gln Pro
805 810 815

Gln Lys Glu Glu Asp Leu Gly Pro Ala Val His His Val Tyr Glu Leu
820 825 830

Ile Asn Gln Gly Pro Ser Ser Ile Ser Gln Gly Val Leu Glu Leu Ser
835 840 845

Cys Pro Gln Ala Leu Glu Gly Gln Gln Leu Leu Tyr Val Thr Arg Val
850 855 860

Thr Gly Leu Asn Cys Thr Thr Asn His Pro Ile Asn Pro Lys Gly Leu
865 870 875 880

Glu Leu Asp Pro Glu Gly Ser Leu His His Gln Gln Lys Arg Glu Ala
885 890 895

Pro Ser Arg Ser Ser Ala Ser Ser Gly Pro Gln Ile Leu Lys Cys Pro
900 905 910

Glu Ala Glu Cys Phe Arg Leu Arg Cys Glu Leu Gly Pro Leu His Gln
915 920 925

Gln Glu Ser Gln Ser Leu Gln Leu His Phe Arg Val Trp Ala Lys Thr
930 935 940

Phe Leu Gln Arg Glu His Gln Pro Phe Ser Leu Gln Cys Glu Ala Val
945 950 955 960

Tyr Lys Ala Leu Lys Met Pro Tyr Arg Ile Leu Pro Arg Gln Leu Pro
965 970 975

Gln Lys Glu Arg Gln Val Ala Thr Ala Val Gln Trp Thr Lys Ala Glu
980 985 990

Gly Ser Tyr Gly Val Pro Leu Trp Ile Ile Ile Leu Ala Ile Leu Phe
995 1000 1005

Gly Leu Leu Leu Gly Leu Leu Ile Tyr Ile Leu Tyr Lys Leu
1010 1015 1020

Gly Phe Phe Lys Arg Ser Leu Pro Tyr Gly Thr Ala Met Glu Lys
 1025 1030 1035

Ala Gln Leu Lys Pro Pro Ala Thr Ser Asp Ala
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 ctgcgttata gcggccgtga aaatatattcc acgttttttc atgggttgca agcagtgttc 300
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 gcccatgccc ttcttttacc tcaagtgttg taaaattcgc tactgcaatt tagaggggcc 420
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 gggatgggag agtggggatc aggtgcagtt ggctcttaac cctcaagggt tctttaactc 720
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ttcaaaagtt cacgaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1373

<210> 294

<211> 165

<212> PRT

<213> human organism

<400> 294

Met Ala Leu Leu Ala Leu Leu Val Val Ala Leu Pro Arg Val Trp
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Thr Asp Ala Asn Leu Thr Ala Arg Gln Arg Asp Pro Glu Asp Ser Gln
20 25 30

Arg Thr Asp Glu Gly Asp Asn Arg Val Trp Cys His Val Cys Glu Arg
35 40 45

Glu Asn Thr Phe Glu Cys Gln Asn Pro Arg Arg Cys Lys Trp Thr Glu
50 55 60

Pro Tyr Cys Val Ile Ala Ala Val Lys Ile Phe Pro Arg Phe Phe Met
65 70 75 80

Val Ala Lys Gln Cys Ser Ala Gly Cys Ala Ala Met Glu Arg Pro Lys
85 90 95

Pro Glu Glu Lys Arg Phe Leu Leu Glu Glu Pro Met Pro Phe Phe Tyr
100 105 110

Leu Lys Cys Cys Lys Ile Arg Tyr Cys Asn Leu Glu Gly Pro Pro Ile
115 120 125

Asn Ser Ser Val Phe Lys Glu Tyr Ala Gly Ser Met Gly Glu Ser Cys
130 135 140

Gly Gly Leu Trp Leu Ala Ile Leu Leu Leu Leu Ala Ser Ile Ala Ala
145 150 155 160

Gly Leu Ser Leu Ser
165